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We dedicate this year’s Biennial Report to Dr. Alan David Sessler. Dr. Sessler graduated from Dartmouth College, Tufts Medical School and received his Anesthesiology training at Dartmouth-Hitchcock from 1957-1959. In 1961, after serving in the Navy, he went to the Mayo Clinic in Rochester, MN, where he practiced his entire professional career and where he continues to reside with his wife Martha (Smith, MD). Alan was Chair of the Department of Anesthesiology and later Dean of the Graduate School at Mayo. He served as a member and later President of the American Board of Anesthesiology. He continues as a member of the American Board of Medical Specialties (ABMS) and with many roles in the American Society of Anesthesiologists from which he received its highest award in 2002: the Distinguished Service Award. He has also been elected to Fellowships in the Royal College of Anesthetists, England and the Faculty of Anesthetists RCS of Ireland. In 1987, he became the Director and currently serves as President of the Foundation of Anesthesia Education and Research (FAER).

In 1983, Dr. Sessler was named a Trustee of the newly formed, not-for-profit Hitchcock Clinic and served on the Executive Committee as its Vice Chair. In 1992, he was named a Trustee of the Dartmouth-Hitchcock Medical Center Board of Trustees. In 2004, Dr. Sessler was named a Trustee of Mary Hitchcock Memorial Hospital and elected Chairman of the Dartmouth-Hitchcock Clinic Board of Trustees.

Dr. Sessler has given generously of his time, talent and resources in unending support of our Department, our specialty and our Medical Center. With much appreciation, fondness and admiration, the Department is honored to dedicate this Biennial Report to Alan David Sessler, MD.
CHAIRMAN’S MESSAGE

D. David Glass, M.D.,
Chairman

Once again the publication of this biennial report provides me with the opportunity to review the activities of our Department over the past two years. In all of healthcare change abounds, and our Department has not escaped the opportunities and challenges that these changes in our environment have provided both locally and nationally. As we continue to have substantial growth in our activities in the operating room, we have broadened our provision of services to encompass patients with such diverse needs as endoscopic procedures, bone marrow aspirations, interventional and diagnostic radiology, and cardiology. While this growth has presented significant workforce challenges, it has also allowed us to increase our outstanding physician faculty and to expand the opportunities for resident education.

In October 2004, the new Project for Progress physical plant expansion had reached the point of accommodating the new Anesthesiology offices, several new operating rooms, the new Same Day Program, and new locker rooms for all operating room personnel. It is interesting to compare the aerial photographs of the newly expanded campus with those of our old Maynard Street site (on the cover of this report); we have highlighted the new Anesthesiology offices on the inside cover. As I prepare this report I am able to look out onto the hillside of Vermont covered with an accumulation of snow that provides the ongoing opportunity for wonderful winter sport in our beautiful environment.

The recent growth in faculty has allowed us to expand to over 50 physicians encompassing operating room anesthesiologists, pain medicine specialists, and pulmonologists, internists, and surgeons in the Section of Critical Care Medicine. We have increased our faculty in Pain Management and in the Section of Palliative Care, where we were able to recruit a nationally and internationally renowned leader: Dr. Ira Byock. Palliative Care has grown throughout the Medical Center and Dorothy M. Byrne and The Byrne Foundation continue to make this effort possible.

As I indicated during our last report, the demand for increased clinical productivity while maintaining a high level academic performance continues to be a challenge. The faculty have continued to rise to and exceed this challenge with extramural funding from government and non-governmental sources of nearly two million dollars in 2003-2004. These awards are distributed among our faculty in the basic science research labs, led by Joyce DeLeo, Ph.D., as well as the clinical faculty. Our overall research efforts continue to be overseen by Dr. Mark Yeager, the William Leroy Garth Professor of Anesthesiology Research.

Educationally we have increased our residency program to 24 residents in the core program, with 4 fellows in Pain Management, and 5 in Critical Care Medicine beginning in July 2005. The Anesthesiology Residency continues to be a highlight of our activities with exceptionally well-qualified resident applicants. In the 2004 Match we went to only #12 on our list to fill our quota! Additionally, almost 13% of Dartmouth Medical Students in the graduating class of 2004 selected Anesthesiology, which was equal to or above all other specialty choices; this is a tribute to the role models that our faculty provides these students when they rotate through our specialty. Furthermore, it is especially a tribute to Drs. Jinny Hartman and Steve Andeweg, who have organized the medical student rotations, including the addition of a sub-internship 2 years ago. We have also implemented a novel, web-based evaluation system of the residents by the faculty; and this year all of the faculty evaluations will be on a similar web-based system. The system utilized to evaluate the residents is done on a daily basis with attention to the six competencies adopted by the ACGME, the LCME, and ABMS as part of an ongoing and continuing measurement of performance. We will be incorporating the same general format for Maintenance of Certification (MOC) for all anesthesiologists, as it becomes a reality in the next couple of years.

There are a couple of areas of our Department’s activities that I would like to point out (a more complete description of each activity can be found throughout this report). The Regional Anesthesia Service, originally conceived and implemented by Dr. Brian Sites, now has several faculty who have become expert in this area. We have established a location in the Same Day Surgery area where these procedures are done preoperatively with much more comfort for our patients and efficiency in the surgical schedule. After nearly 10 years of outstanding leadership as Section Chief of Critical Care Medicine, Dr. Howard Corwin has transitioned into a more research-based practice. The leadership for Critical Care has been assumed by Dr. Stephen Surgenor. The center-wide initiative for the Leadership Preventive Medicine Program that was in its planning stages at the time of our last report is now in full swing. I am pleased to say that two of eight residents currently enrolled in the program are members of our Department. Drs. John Trummel and Julie Sorensen will be embarking upon their practicum year in 2005 and 2006 respectively, having completed their classroom work and becoming eligible to earn a Masters in Public Health Degree in the coming months. David Kelley, another Anesthesiology resident, will begin LPM program in July 2005. This is an exciting program led by Dr. Paul Batalden and others in the institution, and it has certainly lived up to our expectations as an outstanding experience for our trainees as we educate the future leaders of our specialty.

(Continued on page 4)
We have continued to be active in all of the major organizations, with most of our faculty having made regional and national presentations at virtually all of the major anesthesiology and subspecialty meetings. Dr. George Blike has assumed the leadership role in Quality Assurance management for our own department, and is now the Safety Officer for all of Dartmouth Hitchcock Medical Center. He has had a significant impact on other departments, just as he has in ours, in developing strong quality improvement and safety programs from which we as practitioners, and especially our patients, reap direct benefits. In the coming year we will see continued expansion of critical care beds, as well as acute progressive care which will challenge us, especially our Critical Care Service, to provide adequate coverage for the increasing number of critically ill patients whom we serve.

Our Certified Registered Nurse Anesthetist colleagues continue to be important members of the anesthesia team in the operating room and offsite locations. We have had the privilege of having 1 or 2 student nurses from the University of New England join us for some of their clinical rotations. This has provided educational opportunities for our CRNA faculty and has been an important source of recruitment once they complete their training. Recruiting an adequate CRNA workforce continues to be an ongoing challenge for us.

Last, but certainly not least, I want to recognize our support staff in the department. They have continued to be invaluable in their contributions to the activities of our residents, faculty, and CRNAs. Our support staff workforce has been a source of enormous help to all of us as we attempt to carry out the missions of an academic medical center. As I indicated in past reports, Catherine Jensen, MBA and Mary Robinson, MBA also continue to provide the strongest possible financial and operational leadership for all of the areas in which the department is engaged in. A very important personal acknowledgement I would make is the unfailing help and support that I receive from my associate Lisa Wirth, not only in helping the Chair’s office to accomplish what it does, but all of the other activities in which she is also engaged to help the Department achieve success.

To the Department’s many alumni and friends, we look forward to the opportunity to get reacquainted with you at the ASA. This year the 2005 ASA in New Orleans will be the 100th Anniversary and it is likely we will not hold our reception on Monday (the same night as the ASA Gala), but rather would encourage as many of you as possible to come to the Gala and purchase a table where we could all gather together. This promises to be an outstanding and wonderful celebration of our specialty’s centennial anniversary. We would expect a return to our annual reception in 2006. We would also welcome each and every one of you back to the Medical Center when your time and travel schedules permit. I encourage you to keep in touch and help us stay up to date with your activities and your personal and professional milestones.
HIGHLIGHTS OF THE LAST TWO YEARS INCLUDE SUBSTANTIAL COMPLETION OF THE “PROJECTS FOR PROGRESS”, CONTINUED GROWTH IN THE DEMAND FOR ANESTHETIC SERVICES, SEVERAL INNOVATIONS IN THE DELIVERY OF CLINICAL CARE, AND SUCCESS IN ATTRACTING OUTSTANDING COLLEAGUES TO BE PART OF OUR TEAM (PHYSICIANS, RESIDENTS, AND CRNAs).

Having weathered the dislocations involved in the “Projects for Progress”, we now reside in a new office suite looking out over the Connecticut River Valley. With this expansion we have opened four new state-of-the-art operating rooms. These ORs have been specially fitted to facilitate laparoscopic and percutaneous vascular surgery. Additionally, our new Same Day Program provides for the seamless postoperative recovery of patients (in some instances obviating the need for a PACU stay).

Despite ongoing construction we continue to experience steady growth in both OR and off-site anesthesia volumes (see accompanying chart). OR cases, OR hours, and total delivered anesthetics are up 7.2%, 9.4% and 5.9% respectively, over the last two years. We typically provide anesthesia services at 28 locations each day (23 ORs, minor surgery suite, PainFree program, Obstetrics, and two other off-sites).

Several innovations have improved the quality and cost-effectiveness of the care we deliver. Our dedicated regional block service has dramatically increased the number, variety, and success rate of regional anesthetics administered for postoperative analgesia. This has facilitated patient recovery and improved patient (and surgeon) satisfaction. Similarly, the creation of a “neonatal team” has improved the management of our youngest and most vulnerable patients. Conversely, we have shifted the care of routine cataract patients to a new trained RN sedation team. This team—under the oversight of the Anesthesiology Department—helps care for this group of our elder population in a more cost-effective manner.

The successful recruitment of several experienced physicians is heartening and will enhance our coverage of pediatric and cardiac subspecialty cases. Physician recruitment coupled with the continued tight market for CRNAs has resulted in a modest shift towards more “solo” physician provided anesthesia. We are not immune to the forces impacting academic Anesthesiology Departments throughout the United States, but the unified relationship between our Dartmouth-Hitchcock Clinic and the Mary Hitchcock Memorial Hospital has allowed us to weather the storm better than most.

OR General Anesthesia
Thomas M. Dodds, M.D., Vice Chairman

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DHMC Anesthesiology Volumes

Biennial Report 2003-2004
Ambulatory Anesthesia

The Ambulatory rotation provides residents with an experience in which they will acquire a set of skills required to appropriately care for patients undergoing anesthesia in an ambulatory environment. This must be distinguished from the traditional model of inpatient evaluation in order to account for the special characteristics of the ambulatory situation. In this setting, it is critical to promote efficient care without compromising patient safety. The patient will have been evaluated preoperatively by the Surgeon or a Primary Care Provider, and will usually present to the Anesthesiology team via the Same Day Surgery unit. The Anesthesiology team will perform a comprehensive review of the patient’s database, perform a physical examination, and gather any necessary further information in order to formulate and implement an anesthetic care plan and follow the patient through recovery to achieve a safe discharge to home. Careful implementation of this process allows the Ambulatory Anesthesiologist to avoid problems such as patient dissatisfaction, inefficient operating room utilization, unexpected surgery cancellation, unplanned inpatient admissions, unexpected adverse anesthetic outcomes, and litigation.

Current trends in health care in the United States show a progressive shift towards ambulatory surgery, and it is therefore critical for the Anesthesiologist in training to develop the skills necessary to function effectively in this changing environment.

At Dartmouth-Hitchcock Medical Center, ambulatory anesthesia will include the following settings:

• Operating Rooms in the Main OR Area
• MRI and CT Scanners
• Interventional Radiology and Nuclear Medicine
• Endoscopy Suites
• Pediatric Pain-Free Area
• Extracorporeal Shock Wave Lithotripsy
• Minor Surgery Area
• Electroconvulsive Therapy
Cardiac Anesthesia
Gregg S. Hartman, M.D., Director

The Cardiothoracic Anesthesia service remains a busy and popular clinical service at Dartmouth-Hitchcock Medical Center. The subspecialty service typifies the multidisciplinary approach to the treatment of ischemic heart disease, valvular repair and replacements, and complex aortic reconstruction. Off-pump coronary artery bypass remains an alternative option to traditional on-pump revascularization. Surgical procedures for congenital disease, intracardiac masses and shunts, and ventricular remodeling round out the distribution of operations. The service covers the operative arm of the comprehensive thoracic oncology program. Recently recruited surgeon David Johnstone has brought an added volume of thoracic cases which include pulmonary, esophageal, and mediastinal mass resections.

All CA-1 and CA-2 residents rotate through the cardiac anesthesia service on four week intervals. The service covers the heart room daily and a second room devoted to either cardiac or non-cardiac thoracic procedures. This serves to provide more than adequate exposure to a wide variety of cardiothoracic surgical procedures. Residents become proficient at invasive monitoring techniques, the management of cardiopulmonary bypass, the use of vasoactive infusions, and the diagnosis and treatment of coagulopathies. Transesophageal echocardiography is standard for most cardiopulmonary bypass procedures at DHMC. Residents are exposed to this modality both intraoperatively and through biweekly conferences held by Drs. Gregg Hartman and Athos Rassias. CA-3s can elect additional, more extensive training for 2-8 week periods during the final clinical year.

A research focus of the group, headed by Drs. Steve Surgenor and Mary Fillinger, is participation in the NNE (the Northern New England Cardiovascular Disease Study Group). This is a cooperative association of providers from all specialties, both physician and non-physician, including cardiac surgeons and anesthesiologists, perfusionists, cardiologists, nurses, etc. (practitioners, intensive care providers, physical therapists etc.). The association includes participation from DHMC and six other centers throughout Northern New England which perform cardiac catheterization, intervention, and surgery. Outcome research projects have included predicting mode of death from heart failure, identifying patterns of neurological injury post cardiopulmonary bypass, role of hemodilution and mortality in cardiac surgery, and treatment of preinduction tachycardia with beta-blockers. (See following section describing the Anesthesia Registry in further detail.)

Since the arrival of Gregg Hartman, M.D. over five years ago, a major emphasis has been placed on intraoperative TEE. Five additional staff have become proficient in TEE and obtained certification in perioperative TEE. Staff are actively pursuing increased exposure and training in this modality. Residents have intraoperative hands-on exposure, biweekly conferences, and the opportunity to be exposed to “Virtual TEE™”, an interactive computer-based echocardiography simulator developed by Dr. Hartman. Virtual TEE permits students to manipulate a TEE probe and scan planes within a 3-D environment; view the relationships of the TEE probe; and scan plane and heart from any angle within the virtual chest cavity and view the resultant scan angle. The simulator is also used for illustrations and presentations. There is an extensive library of DVDs and videotapes that provides opportunity for independent study. The service is fully integrated with Cardiology, permitting collegial exchange and cooperation.

In addition to the local teaching program, Dr. Hartman is one of the co-directors of the Society of Cardiovascular Anesthesiologists’ (SCA) Comprehensive Update of Intraoperative Echocardiography held annually in San Diego. This meeting is for cardiac anesthesiologists, cardiac surgeons, and cardiologists, and showcases numerous nationally known speakers. New this year in the operating room is a 4-D TEE system. This unit (one of the few in clinical practice nationally) allows capture, replay and analysis of 3-D images of the heart, surrounding structures, and volumetric display of Doppler color flow derived blood flow velocities. It represents the cutting edge of TEE imaging.

Four of the attending staff members of the cardiothoracic team also have specialty certification in critical care. Their involvement provides continuity between the immediate intraoperative and postoperative care of cardiothoracic surgical patients. New to the team are Drs. J Clark, B Spence and soon to arrive Drs. C Clark, and A Taenzer. Moving to other clinical responsibilities are Drs. Gallagher, Arbogast, and Quill. These three have provided many years of expert clinical service.

Research and quality improvement projects remain a focus of the sub-section of cardiac anesthesia. In addition to the aforementioned NNE participation, active clinical initiatives include the routine use of insulin infusions during cardiopulmonary bypass, modulation of inflammatory mediators, the role of pulmonary vasodilators in heart failure, and 3 and 4 dimensional echocardiography. Dr. Mark Yeager, a nationally recognized authority, leads the investigation of the role of inflammation and its modulation in the pathophysiology of cardiovascular disease.
This is the ninth year of on-going data collection for the Cardiac Anesthesia Registry that is coordinated through the Northern New England Cardiovascular Disease Study Group. As of this year there are over 18,000 cases entered in this Registry. The Registry is important both at Dartmouth-Hitchcock Medical Center and throughout the Northern New England region for initiating regional patient safety programs, improving clinical care, facilitating continuous process change and improvement, guiding clinical decisions, and redesigning existing processes of care, all to reduce adverse outcomes after cardiac surgery.

Specific to the Anesthesia Registry, several regional activities have taken place over the last several years. First, there has been a series of conference calls to facilitate communication among anesthesia groups across the region. During these conference calls basic epidemiology about key processes, such as invasive hemodynamic monitors, use of transesophageal electrocardiogram, use of antifibrinolytics, use of beta blockade, inotrope support, and intra-operative balloon pump have been shared and discussed. In addition, several outcomes are discussed such as incidence of post-operative atrial fibrillation, stroke, and mediastinitis, as well as time to extubation. These conference calls have been an excellent catalyst for quality improvement across the region.

Cantwell Clark MD submitted an abstract to the Society of Cardiovascular Anesthesiologists this past year from this Registry. The trend over time of an increase in the use of central venous catheters vs. a corresponding decrease in use of pulmonary artery catheters across Northern New England for patients under going CABG surgery was described. This abstract was well received at the Society of Cardiovascular Anesthesiologists meeting and is one example of the type of epidemiologic work that is possible with the Registry.

Currently a multidisciplinary group of nurses and physicians from several different specialties and perfusionists are working together using a dataset that is a combination of the Surgical, Perfusion, and Anesthesia registries to understand the relationship of hemodilutional intra-operative anemia, red cell transfusions, and adverse outcomes after CABG surgery. The NNE is a nationally recognized leader in this research.

Finally, the Anesthesia Registry has been useful for patient safety initiatives. For example, a guideline developed for safe placement of internal jugular catheters has been developed by the Quality Assurance committee of the Anesthesiology Department at Dartmouth-Hitchcock Medical Center. This information was shared across the region during a recent Registry conference call.

We are pleased that several of the new members of the Cardiac Anesthesia group at DHMC are expressing interest in being involved in this on-going Registry. There are ample opportunities to complete important epidemiologic research into the utilization of anesthesia techniques to improve outcomes during cardiac surgery, such as transesophageal echocardiography, hemodynamic monitoring, intra-operative beta blockade, extubation times, and transfusion medicine.

This Anesthesia Registry is indebted to the hard work of Drs. Thomas Dodds and Mary Fillinger who were instrumental in making it a reality during the 1990s.
Neuroanesthesia
Marc L. Bertrand, M.D.,
Director

The Section of Neurosurgery, comprised of seven neurosurgical faculty members and six resident physicians, has experienced a rather dramatic 20% increase in its surgical case volumes over the past two years. Of the 1300-1400 neurosurgical cases now performed annually at DHMC, 90% are adult and 10% are pediatric. The case types roughly breakdown into 35% intracranial, 30% spine-based, 12% stereotactic, and 12% neurotrauma.

Over the past few years our residents have consistently exceeded the RRC minimum case requirements for intracranial and intracranial vascular procedures by the end of the CA-2 year. The service has maintained a steady base of neurotrauma and intracranial neurovascular procedures, including the occasional posterior fossa procedure performed in the sitting position. We have incorporated the use of TEE in all sitting cases to help monitor for venous air embolism.

For the past two years neurosurgical residents have been able to acquire all of their pediatric neurosurgical experience on-site without rotation to an outside facility. The recent addition of a second pediatric neurosurgeon (Dr. Susan Durham) should facilitate a continued rise in pediatric neurosurgical case volumes. Aggressive interest in the use of intraoperative somatosensory (SSEP) and motor evoked potential (MEP) monitoring by our pediatric group has greatly enhanced the resident’s clinical experience with these monitoring modalities. All carotid endarterectomies performed by the neurosurgical service also receive both SSEP and EEG monitoring.

The epilepsy service remains quite active with 35-40 patients per year presenting for surgical therapy of intractable seizures. The majority of these patients undergo cortical mapping with subsequent resection of the seizure focus while a few patients refractory to standard therapy receive implanted vagal nerve stimulators. The occasional requirement for speech and motor mapping in the awake patient has provided us with yet another clinical challenge in the operating room.

The curricular manuals for both the CA-2 and CA-3 Neuroanesthesia rotations underwent yet another update this past year in an effort to keep pace with current knowledge and research in the areas of Neurosurgery, Neuroanesthesia, and Neurocritical Care.

OB Anesthesia
John W. Arbogast, M.D.,
Director

The Birthing Pavilion at Dartmouth-Hitchcock Medical Center has seen a modest increase in the total number of deliveries over the past few years. The hospital handles between 1000 and 1200 births per year, with nearly 40% being covered by the high risk obstetrical service known as Maternal Fetal Medicine. The remaining births are managed by obstetricians, residents, and/or midwives. The Department of Anesthesiology is involved, either for labor analgesia or surgical anesthesia, with at least 50% of all deliveries here at DHMC.

Labor analgesia service is provided on demand. Techniques vary per provider preference and clinical situation but typically involve the use of intrathecal opioids, continuous and patient controlled epidurals, and combinations of each. Our goal is to provide fast, reliable, and safe pain relief for the parturient.

The anesthesia service also participates in all elective, urgent, and emergent operative deliveries in one of two dedicated operating rooms located in the Birthing Pavilion. A team approach led by a member of the Anesthesiology Department allows for efficient high quality care in crisis situations. In-situ team training, using sophisticated simulators and scenarios, is part of an exciting and novel approach to improving patient safety during OB emergencies here at Dartmouth-Hitchcock Medical Center.

Senior Anesthesiology residents rotating on the OB anesthesia service work closely with the entire Birthing Pavilion staff. A typical day on the service includes interactive rounds, consultation with all high risk patients, routine analgesia consultations, and all operative procedures requiring anesthesia. While all members of the Anesthesiology staff provide attending coverage for OB, there are at least three anesthesiologists with special interest and/or training in caring for the obstetrical patient.

In addition, Anesthesiology residents can rotate through the Obstetrical service during the PGY 1 year as an elective, gaining valuable experience from a non-anesthesia perspective.
There have been multiple exciting changes in the Orthopedic and Regional Anesthesia subspecialties over the past year. First and foremost is our nationally recognized DHMC Regional Anesthesia Service. We now have a dedicated four bed regional anesthesia suite with 4 fully equipped procedure rooms and a conference room. This service is staffed by a staff anesthesiologist, an Anesthesiology resident (one each month on rotation), and two full time sedation and monitoring nurses. Patients arrive to the dedicated block suite where they are admitted by the nurses, IV access is established, and the block commences with essentially no delay for the operating room.

We are averaging 120 peripheral nerve blocks per month. DHMC Anesthesiology residents are graduating in the 100th percentile for regional anesthesia cases performed. During their rotation on the service, residents have no official operating room responsibilities. Instead they focus on the art and science of peripheral regional anesthesia. As part of the month-long rotation, each resident participates in a research project which has ranged from working on the database to multimedia presentations. We are one of a handful of hospitals across the country utilizing ultrasound to localize peripheral nerves and to facilitate neural blockade. Our block room is equipped with the latest high resolution and ergonomic ultrasound machines.

Our team of anesthesiologists is aggressively involved with research and development with respect to the role of ultrasound in regional anesthesia. Projects that are underway include randomized controlled trials comparing the success of conventional nerve blocks with newly described ultrasound techniques, the role of ultrasound simulation in improving the learning curve of residents, and the efficacy of intrathecal clonidine. We are maintaining a comprehensive and prospective database which currently has over 2000 patients in it. We are using this database to support research and initiate quality improvement projects.

We are excited by our dramatic increase in orthopedic surgical volume. The Department of Orthopedic Surgery is expanding with multiple talented staff including two new trauma surgeons, two new joint specialists, and a soon to arrive lower extremity specialist. DHMC surgical services are in strong support of our regional activities. This is because we have demonstrated the ability to efficiently perform these procedures; and the clinical benefits have become apparent. That is, our database and quality control follow up with our patients suggests that regional anesthesia improves postoperative pain control, reduces nausea and vomiting, improves patient satisfaction, and facilitates patient discharge.

Finally, we are excited to announce the initiation on July 1st, 2005 of a regional anesthesia fellowship for 2 candidates. This PGY 5 position will be offered nationally. Fellows will be involved in research, clinical care, and resident education. Concomitant with the initiation of the fellowship, we will be utilizing our regional anesthesia suite, expanding to five rooms, to efficiently and effectively place thoracic epidurals for our thoracotomy cases.

One can only imagine what the next year will bring. Please stay tuned for further developments!
Pediatric Anesthesia
Joseph P. Cravero, M.D.,
Director

Surgical services at the Children’s Hospital at Dartmouth (CHaD) have undergone rapid expansion over the last two years with the addition of several new surgical subspecialists and general pediatric surgery personnel. Over 3,000 surgical cases (involving all pediatric subspecialties) were performed during the past fiscal year for children 18 years of age or under. The pediatric anesthesia service is at the forefront of these efforts and has continued to show national leadership in providing innovative solutions for difficult anesthesia and sedation problems.

While all members of the DHMC Department of Anesthesiology are capable of providing routine anesthesia for children, the pediatric anesthesia service consists of a core group of 9 anesthesiologists who have a unique commitment to perioperative pediatric care. This group provides anesthesia in the CHaD operating suites, pediatric and neonatal ICUs, and delivers sedation for procedures performed literally anywhere in the Medical Center through the PainFree Program. Members of this group also provide on call back-up for all neonatal and difficult pediatric cases that occur outside of regular working hours at CHaD. In cooperation with the DHMC Pain Management Center, the section continues the aggressive use of regional anesthesia techniques (including epidural, caudal, and spinal modalities) for both operative anesthesia and postoperative pain management. Over ninety percent of pediatric urology or general surgery patients now receive a regional anesthetic/analgesic of some type. In addition, the pediatric team remains intimately involved in the management of postoperative pain for inpatient pediatric patients and offers both inpatient and outpatient consultation for pediatric patients with chronic pain complaints.

The pediatric anesthesia subspecialty group continues to actively support the Pediatric Intensive Care Unit (PICU) and the Intensive Care Nursery (ICN) at CHaD. Staff and residents from the Anesthesiology Department provide comprehensive airway management expertise as well as pain/sedation consultation for these units on a continuous basis. In this capacity we have pioneered the use of new agents for difficult sedation cases in these venues.

Research projects in the areas of perioperative pain control, anesthesia emergence phenomena, and human factors engineering for patient safety are ongoing. In addition, the pediatric anesthesia group has received generous support from the National Patient Safety Foundation, Agency for Health Care Research, and the NIH to pursue studies of safety and efficacy involving the delivery of sedation services for children, and ongoing funding to evaluate the ability of various providers to rescue patients from critical events related to sedation care using pediatric patient simulation technology. We also produce a newsletter regarding pediatric sedation that is delivered via the internet to over 3,000 pediatricians and anesthesiologists around the world. In the past two years members of the team have presented work in this area to the American Society of Anesthesiologists annual meeting, the Society for Pediatric Anesthesia Annual meeting, American Academy of Pediatrics Annual meeting, and several national meetings on patient safety.

In addition to these clinical and research efforts, the pediatric anesthesia service continues to serve a clinical teaching role for medical students, Pediatric residents, and Anesthesiology residents. While much of this education takes place in the operating rooms at DHMC, members of the pediatric anesthesia group are also spearheading the effort to bring high quality human patient simulation to our institution. These efforts include the incorporation of simulation into the training and credentialing of staff for sedation practice and the use of simulation to train residents and students in appropriate emergency airway management and resuscitation efforts. The staff takes pride in providing a curriculum and “hands on” experience that addresses both the physiological and emotional considerations of perioperative and operative care of the pediatric patient and family.
Vascular Anesthesia

Kathleen A. Chaimberg, M.D., Director

With over 1000 cases performed in the last year, the vascular service continues to provide extensive opportunity for resident education as well as clinical research. In fact, vascular procedures represent approximately 10% of the total DHMC operating room hours. Unique to Dartmouth is our extensive experience with the burgeoning field of endovascular approaches to aneurysm repair as well as noninvasive interventional techniques to address peripheral vascular disease, including carotid stenting in the awake patient. Junior residents rotating through the vascular rooms have the opportunity to gain considerable knowledge and confidence as they design, implement, and manage an anesthetic plan for patients who are, by definition, medically complex. Senior residents often elect to spend several months during the CA3 year caring for these challenging patients, refining their clinical skills of preoperative evaluation and perioperative management as they prepare to leave residency and embark upon their own careers as “consultants” in anesthesia.

Post Anesthesia Care Unit (PACU)

Carter P. Dodge, M.D., Medical Director, Perioperative Services
Carla Sandstrom, R.N., B.S.N., Unit Leader

The Post Anesthesia Care Unit (PACU) is the largest critical care unit in the Medical Center. Twenty-two beds with full non-invasive and invasive monitoring capability are used to provide post-surgical and other specialized care for over 11,000 patients annually. In addition to routine adult and pediatric anesthesia recovery services, the PACU provides a flexible overflow resource for Adult Critical Care, Cardiology, Same Day Surgery, and Pediatric Intensive Care. The Unit remains active in the acute pre- and postoperative management of renal transplant patients, as well as providing other specialized care for patients receiving electro-convulsive therapy, cardioversion and intra-arterial thrombolytic therapy, and non-surgical procedures requiring anesthesia.

Patient care is provided by registered nurses, aided by specially trained unit technicians. The PACU’s management structure includes a Unit Leader and a shared governance council structure, supported by the Perioperative Management Team. The PACU staff is actively involved in peer review and other quality improvement activity, both its own and that of the Department of Anesthesiology. Ongoing efforts seek to critically examine the recovery process, with a goal of defining and creating an ideal path for safe and efficient recovery from anesthesia.

Recent scientific research efforts have included the effects of sevoflurane on children’s emergence from anesthesia and optimal pediatric epidural solutions. We are currently planning efforts to improve the quality of the management of postoperative discomfort – pain, nausea, and vomiting.
Trauma anesthesia, though not a formal clinical rotation, is an important component of resident education. Trauma anesthesia is often overlooked, possibly because traumatic injuries occur sporadically, intermixing randomly with the scheduled activities of the day. However, the impact of trauma has enormous socio-economic implications. CDC data from 2002 (most recent available) show accidents are the fifth leading cause of death in all Americans, and the primary cause of death in individuals from 1 to 45 years of age. Unintentional injury accounts for more years of productive life lost before age 65 than any other illness.

Mortality rates in 2002 from “unintentional injury” in Vermont = 38/100,000 and in New Hampshire = 28/100,000 people. United States overall rate = 37/100,000.

Because of this individual and socio-economic impact, resident training in trauma anesthesia is valuable in returning traumatically injured individuals back to a good quality and productive life. The curriculum includes didactics on mechanisms of injury, shock/trauma physiology, and socio-economic impact. Specific objectives include: management of the traumatized airway, hemostasis and uncontrolled hemorrhage, coagulation and fibrinolysis, metabolic derangement resulting from shock, hypothermia and rapid resuscitation, and finally, the impact of activation and release of various mediators of the inflammatory cascade. DHMC’s Trauma committee is comprised of physicians from General Surgery, Orthopedics, Neurosurgery, Pediatrics, Anesthesiology, Emergency Medicine, and representatives from Nursing, Hospital Administration, and DHART, thus providing a multidisciplinary approach to overall trauma management.

In addition to the trauma lecture series, all residents become certified in Advanced Trauma Life Support, and function as an integral member of the Trauma Team in the Emergency Department and operating rooms. All residents participate in the crisis management simulation course. Clinically, all residents receive their fair share of adult and pediatric trauma cases primarily while on call. Generally, these are the times of the most intense interactions between staff and residents. DHMC is the regional trauma care facility with over 1000 DHART helicopter transports per year and growing each year. There is not a lot of “knife and gun club” activity in New England, but there is more than enough blunt trauma to give an intimate understanding of Trauma’s impact on the human body.
Critical Care Medicine

Stephen D. Surgenor, M.D., Ph.D.,
Section Chief
Critical Care Medicine

The Intensive Care Unit at Dartmouth-Hitchcock Medical Center is celebrating its 50th anniversary this year. In 1955 Dr. William Mosenthal created a combined medical and surgical Intensive Care Unit at Mary Hitchcock Memorial Hospital. This multidisciplinary approach to Critical Care medicine has prospered under the medical directorship of Drs. Glass, Gettinger, and Corwin. The year 2004 marked the passage of the Directorship from Howard Corwin to Stephen Surgenor. Dr. Corwin has elected to focus his energy on his nationally recognized research in transfusion medicine, as well as continuous quality improvement and quality assurance projects here at Dartmouth-Hitchcock Medical Center.

From a historical perspective, since 1992 the Critical Care Service has experienced a 35% increase in total patient days and a 30% increase in total patient admissions. During this same time period, there has been a trend of fewer admissions of patients for elective postoperative care and monitored care. This implies growth in level of acuity and amount of active therapy for admissions over the time period. In addition, since the move to the new Lebanon facility, the Critical Care Service has been able to produce outcomes consistently above those expected as compared to comparable ICUs nationally, and has done so with better than expected resource consumption. Finally, the Critical Care Service continues to provide excellent educational experiences for medical students, residents, and other allied health-care professional trainees.

The Intensive Care Units at DHMC are fully compliant with expectations of the Leap Frog Group as we provide comprehensive critical care management by a staff comprised only of board certified intensivists.

We have been pleased to see high quality candidates for our Critical Care Medicine Fellowship programs. These programs are undergoing a period of growth under the direction of Dr. Athos Rassias. The Fellowship experience at Dartmouth-Hitchcock Medical Center is multidisciplinary with participation by graduates from Anesthesiology, Medicine, and Surgery residencies. The Fellows are an important facet of our efforts to provide high quality and highly accessible Critical Care to this institution. In addition, the Fellows actively participate in leadership and quality improvement efforts that are ongoing in the Section.

Research activities are also an important aspect of our Section. Currently there is active research on the utilization of blood transfusions and blood preservation techniques. There is an ongoing study about the diagnosis of relative adrenal insufficiency and steroid repletion in critically ill patients. One of our recent Fellowship graduates led a quality improvement study to advance the utilization of key best practices to optimize preventive measures in the Intensive Care Unit. Another recent graduating Fellow evaluated the use of portable ultrasound technology to provide rapid evaluation of patients with pulseless electric arrest. A current Fellow is working with the nursing and physician staff to develop and implement protocols for early goal-directed resuscitation, therapeutic hypothermia, relative adrenal insufficiency during sepsis, rapid accessibility to early antibiotics, and a low tidal volume ARDS strategy protocol. Finally we are delighted that one of the Pulmonary / Critical Care Medicine Fellows is acceptted to the Leadership Preventive Medicine Residency program and plans to evaluate the implementation of a rapid response medical emergency team based within the Section of Critical Care.

The Section is also working closely with the Palliative Care Service. It has been a rewarding experience to have their expertise available and accessible as we care for patients with highly complex problems that are sometimes untenable and unfixed. We have had several families recently express their gratitude with regard to the high quality comfort care and end of life care that their loved ones received in the Intensive Care Unit. Several letters and comments from patients and families have highlighted how much they appreciate the compassionate care they received.

We are very pleased to have a strong relationship with the New England Organ Bank. We are proud to be a top performer nationally as we appropriately identify patients for donation status. In addition, the Section has recently worked with the New England Organ Bank to develop a policy for organ donation after cardiac death.

As the Section of Critical Care Medicine celebrates its 50th anniversary, we are proud of our outstanding history. We are indebted to our forefathers for striving to develop a highly respected multidisciplinary Critical Care program. This Section will continue to provide patients who are critically ill with the high quality care they need, when they need it.
Pre-Admission Testing Program (PAT)

Brian D. Sites, M.D.,
Director

The philosophy of the Dartmouth-Hitchcock Medical Center’s Pre-Admission Testing Clinic is to ensure that our patient population is ready for surgery. Our clinic is staffed by anesthesiologists, nurses, and office support personnel. The preoperative patient will come to the PAT clinic approximately two weeks prior to the scheduled surgery date. At the PAT clinic, all necessary paperwork and diagnostic information is completed. This includes possible lab work, EKG, and chest x-ray. In addition, all patients will take our state-of-the-art health quiz. This is an automated survey which asks simple medical questions designed to direct the ordering of appropriate preoperative lab tests. Also in the PAT center, nurses laboriously review medications with patients and enter these medications into the DHMC electronic medical record. This is the main mechanism by which all caregivers know what medications patients are on.

We are proud of our detailed and comprehensive anesthesia consult service. When triggered by our surgical colleagues, the patient will meet with one of the Anesthesiology staff. The goal of this interview is to help manage complex presurgical medical dilemmas, such as the need for advanced cardiac evaluation and anticoagulation therapies.

We are also excited that we have instituted a system for bypassing healthy patients from the Clinic. This has resulted in a reduction in waiting times, decreased stress on clinic resources, and has allowed us to focus on the more critically ill patients.

Our future looks bright. We are expanding the role of the electronic record and moving to a new and spacious center. This year Clinical Base Year Anesthesiology residents will begin rotating through Pre-Admission Testing as part of a new 4-week Perioperative Anesthesia assignment. In addition, we are examining the role of putting the health quiz on the Internet, so that patients may answer questions in the privacy of their own homes. Other projects for 2005 include developing a resource center to participate in the education of patients regarding their upcoming surgeries.
Sedation for children undergoing procedures outside the operating room continues to be an area of rapid growth and evolution. With the help of local charities and the Ronald MacDonald Charities of Eastern New England, the PainFree program was created by members of the DHMC Department of Anesthesiology in the fall of 2001 and continues to offer sedation/anesthesia and stress control for any child requiring a therapeutic or diagnostic procedure at the Children’s Hospital at Dartmouth (CHaD). Virtually every section of the hospital that performs tests or procedures on children has utilized this innovative program, with the greatest number of patients coming from Radiology (CT scanner, MRI scanner, Interventional Radiology), Pediatric Nephrology, Pediatric Oncology, Pediatric Cardiology, Audiology, Rheumatology, ENT surgery, Dentistry, Plastic Surgery, Pediatric Dermatology, Pediatric Orthopedics, and General Pediatric Surgery. The program provided care for 1,500 procedures last year with an expected growth of another 5-10% this year.

In the past year we have renovated our sedation suite (dubbed the “Comfort Corner”) and hired an additional nurse in order to accommodate the continued increase in requests for our services. The sedation suite now includes a patient intake area, admission beds, a fully equipped anesthesia location, procedure room, and two recovery beds - all in one child-friendly environment. The clinical staff of the program includes two registered nurses, a patient care technician, and a child life specialist who work with anesthesiologists and certified registered nurse anesthetists. The physical environment combined with the expert and caring sedation team has vastly improved the experience for patients and increased the efficiency of our procedure providers.

The PainFree Program actually represents a unique blending of several services including Pediatrics, Nursing, Child Life, and Anesthesiology. The program is designed to provide the level of care that each patient requires, whether simple emotional support, distraction, or sedation/anesthesia. The plans for each patient take into consideration the child’s medical as well as emotional status, family situation, and the procedure to be performed. Input is received from family, pediatrician, Child Life specialist, and anesthesiologist in order to formulate an appropriate intervention for any given patient. The result has been skyrocketing patient, family, and provider satisfaction and marked improvements in effectiveness and efficiency of interventional and diagnostic procedures for children at CHaD.

Anesthesiology residents, Pediatric residents, and medical students all rotate through the service, which offers a unique insight into the management of rapid turnover cases and the necessity to adapt to various environments and procedure demands. In addition, the service has provided a venue for clinical investigation into the delivery of pediatric sedation care, yielding numerous abstracts, papers, and national presentations. We continue to look for opportunities to adapt digital entertainment technologies and other distraction techniques for the purposes of improving the tolerance of procedures without medications. In addition, the program is piloting the use of new ultra-short acting sedatives and analgesics and applying these medications to sedation cases. The ultimate goal of the service remains the elimination of stress and pain from the hospital experience for children at CHaD.
The Pain Management Center at Dartmouth Hitchcock Medical Center has continued to grow. We provide care for acute, chronic, and cancer pain and serve as a resource for the hospital, our community, and for a large part of both New Hampshire and Vermont. We are a section within the Department of Anesthesiology, and function in a interdisciplinary capacity integrating the specialties of Neurosurgery, Psychiatry, Behavioral Psychology, Oncology, Physical Medicine, Nursing, Social Work, Chaplaincy, and other services in an organized and directed approach to managing patients with pain.

We are active in both clinical and basic science pain research areas, conducting research on basic mechanisms of pain, and evaluating the use of new drugs and procedures in the treatment of our patients with chronic pain. We are leaders in the development of information technology directed towards the management of both cancer pain and noncancer chronic pain. We have three Pain Fellows currently in our program and are increasing to five in the near future; and residents from the Anesthesiology, Neurosurgery and other sections rotate through the service. We offer medical student electives for students from Dartmouth and other medical schools and have rotations for basic science researchers supporting translational research in pain medicine. We recognize our primary role as striving towards excellence in patient care, and we attempt at all times to provide the highest quality of care to our patients with chronic pain, acute pain, and cancer pain.

Our full time faculty includes Dr. Robert Rose, who is the Medical Director of the Pain Management Center; Dr. Gilbert Fanciullo, the Section Chief of the Pain Management Center; Dr. Ralph Beasley who is the Director of our Fellowship and educational program; and Dr. Daniel Graubert who is Director of Interventional Pain Medicine. Our faculty are diverse, have a variety of special interests in pain, and offer a balanced mixture of medical, psychological, and invasive modalities that is unique to pain training and treatment as it exists in the United States today.

We have a variety of educational and didactic programs, and offer education to our own fellows as well as other interested community and hospital members. We are active participants in the Spine Center, and work closely with the Palliative Medicine team. We have a pediatric pain program that is unique in New England outside of Children’s Hospital in Boston. Our invasive anesthesia program includes training in all peripheral and axial blocks including neurolysis, implantation of spinal infusion devices, and implantation of spinal cord stimulators. We are on the cutting edge of clinical research, and are thus able to provide our patients with the most current treatment available anywhere in the world. Our program is unique and exemplary; and innovation and caring are the rules.
Section of Palliative Medicine

Ira Byock, M.D.,
Section Chief

The Palliative Care Service is a specialized interdisciplinary team available to patients with serious, potentially life-limiting conditions and their families. Palliative care expands disease-modifying medical treatments to encompass goals of enhancing quality of life, optimizing function, helping with decision-making, and providing opportunities for personal growth. The Palliative Care Service at DHMC brings physicians, advanced practice nurses, social workers, spiritual care providers, and restorative and complementary therapists together to prevent and relieve suffering and to support the best possible quality of life for patients and their families, regardless of the stage of the disease or ongoing disease-based, life-prolonging treatments.

Comprehensive palliative care services often require the expertise of various providers in order to adequately assess and treat the complex needs of seriously ill patients and their families. The core staff of the Palliative Care Service includes 2.1 FTE physicians, all with palliative care specialty certification, and 2.5 FTE specialty advanced practice registered nurse practitioners. Yvonne Corbeil, a nurse administrator with extensive experience in hospice and palliative care program development, oversees our efforts to serve our internal (DHMC) and external clients.

In the hospital, palliative care specialists work alongside with cancer specialists, surgeons, medical sub-specialists, and critical care intensivists. The focus of palliative care begins with treating patient’s pain and other distressing symptoms, such as nausea or shortness of breath. The team assists patients and their families in coping with bad news and improving comfort and quality of life with progressive illness. Beyond caring for physical aspects of illness, the Palliative Care team can help families navigate the sometimes frightening journey through illness. Skillful anticipatory guidance can help people clarify goals of care, make sound decisions in uncertain circumstances, prepare for the possibility of disease progression, and explore matters of life completion.

The whole person and family-centered approach to care described above for hospitalized patients is available in the outpatient setting and in follow-up after hospital discharge. Palliative Care Service clinicians see patients by appointment within ambulatory Cancer Center clinics, as well as in medical and surgical clinics at Dartmouth-Hitchcock Medical Center. Most often, patients are seen on the same day and in tandem appointments with specialty physicians, advanced practice nurses, radiation therapists, and others.

The Palliative Care Service works closely with regional home health and hospice programs to ensure continuity of care between the hospital and home, ensuring comprehensive attention to symptoms and offering support for families in caregiving and in grief.

Clinical rotations are available for DMS 3rd and 4th year medical students. We offer 2 and 4 week rotations for DHMC residents and fellows in Anesthesiology, Internal Medicine, Oncology and Psychiatry. As space is available, we also welcome clinical rotations and observerships by advanced practice nurses, pastoral care, and social work students. Physicians, advanced practice nurses, and program development faculty maintain an active schedule of lectures and presentations to pre-clinical and clinical audiences within DMS and regional facilities, as well as to the general public.

Members of the section are pursuing studies and developing new programs to broaden the knowledge-base in palliative care, enhance providers’ skills, improve treatment, and redesign health care microsystems to expand access and raise quality.

Our Section engages in outreach to Dartmouth-Hitchcock Affiliates and other regional providers to enhance communication and continuity of care, to teach, to share resources and collaborate in studies, and to develop programs to better care for seriously ill patients and families in northern New England.

Striving to Deliver the Best Care Possible: One Person at a Time

Excellence in care is delivered one person and one family at a time. In active collaboration with our colleagues in the specialties and subspecialties of Anesthesiology, Medicine, and Surgery, the Palliative Care Service at DHMC strives to deliver the best care possible to each patient and family we serve. While keeping our clinical focus local, we recognize the opportunity to study and innovate. In so doing we hope to “raise the bar,” regionally and nationally, heightening expectations and outcomes of care for all who are seriously injured or ill, or living with the frailty of advanced age. Our vision extends to supporting peoples’ families, friends, and communities in caregiving and in grief.
The cornerstone of the Department of Anesthesiology’s academic mission continues to be resident and medical student education. The training program as a whole grew substantially over the past two years, both in size as well as in the availability of clinical, educational, and research opportunities. We have seen a number of enhancements to our educational program which have had a positive impact on both the Clinical Base Year and the Clinical Anesthesiology program.

The Clinical Base Year (CBY), first offered in the 1997 Match, continues to be an attractive option for residents entering our program. We once again filled all CBY positions offered in the Match for the upcoming academic year (’05-’06) and this summer will mark the ninth year that we have had residents entering the integrated program. Significant changes incorporated into the CBY curriculum over the past two years include the addition of a perioperative medicine experience and a clinical anesthesiology block to the core rotation group. All CBY residents now participate in a clinical anesthesia rotation as the final block of their Clinical Base Year. Both of these opportunities provide the PGY-1 residents with increased direct interaction with the Department of Anesthesiology.

The CBY curriculum for the upcoming academic year is composed of forty-five weeks of mandatory “core” rotations, four weeks of “elective” time and three weeks of much appreciated vacation. Core rotations include General Internal Medicine, Cardiology, Oncology, Emergency Medicine, Adult Critical Care Medicine, Pediatrics, Clinical Anesthesiology, Perioperative Medicine, Palliative Care, Echocardiography and Clinical Pathology. Elective options are available in Adult Critical Care Medicine, Pediatric Intensive Care Medicine and the various surgical subspecialties as well as consult service electives in Endocrinology, Gastroenterology, Infectious Disease, Nephrology, Pulmonary Medicine and Rheumatology.

We were very excited to be able offer the Dartmouth Leadership Preventive Medicine Residency Program in conjunction with our existing clinical residency as of the ’03-’04 academic year. We currently have two members of our senior class, Dr. Julie Sorensen and Dr. John Trummel, involved with the LPM program. They will complete the required MPH coursework during the CA-3 year and continue for an additional year to complete their practicum projects. Dr. Sorensen will also be integrating a fellowship in Pain Management into her practicum year. Julie’s research will focus on the DHMC Acute Pain Service and the adequacy of post-operative pain control for our patients, while Dr. Trummel has chosen to evaluate the use of Propofol sedation by non-anesthesiologists for endoscopic procedures. Dr. David Kelley has recently been accepted into the LPM program and will start his MPH coursework in the fall of his CA-2 year. David plans to integrate a Critical Care Medicine fellowship into his LPM track.

Resident involvement in research has continued to rise over the past two years. Dr. Ryan Loyd followed up on his successful funding by the DHMC Quality Research Grant Program (QRPG) with a $100,000 grant from the NIH Loan Repayment Program as a CA-3 resident.

Dr. Loyd, currently a fellow in Pain Management at DHMC, will use the NIH funding to continue with his development and validation of a functional assessment tool used to predict outcome from epidural steroid injections. Resident research activity has also generated poster presentations at the ASA as well as the Society for Technology in Anesthesia (STA).

The ’03-’04 academic year saw major changes in our resident evaluation system. In November 2003 we came on-line with a computer-based daily evaluation system. Each faculty member who has worked with a resident on a given day receives an email prompt to complete the competency-based online evaluation. At the end of each month, a cumulative summary of all faculty comments is printed for review by the resident. Over the first year we have been averaging 10-15 “one day” evaluations for each rotation. The new system allows us to provide residents with more focused, timely feedback. It also allows for peer group comparison within the different competencies. We are continuing to work on refining the question set as well as improving the feedback portion of the system. As of 2004 we instituted a similar system for resident evaluation of their daily faculty contacts.
The ’03-’04 academic year also marked the introduction of new duty hours regulations into the ACGME Common Program Requirements. Our electronic duty hours documentation system has functioned well and has been instrumental in supporting our interventions on behalf of several Clinical Base Year residents to prospectively avoid potential duty hour violations. Duty hour compliance within the Clinical Anesthesiology program has not been an issue as our Program Requirements have included a 24 hour limit on clinical anesthesia duties for quite some time.

In the clinical arena, the Regional Block Rotation, under the direction of Dr. Brian Sites, is in its third year as a required CA-2 rotation. The block rotation has significantly improved resident experience with peripheral nerve blocks and catheter-related techniques. The resident on rotation is free from other O.R. duties and is expected to identify potential block candidates on the days’ schedule, evaluate and consent the patient, and perform the regional block under faculty supervision. Care of the patient for the operative procedure is assumed by the anesthesia team in the O.R. and the resident is then available to perform another block. Resident participants are now averaging 100-110 blocks over the course of this one month rotation and have universally requested a second opportunity to participate in this rotation during their CA-3 year.

We saw our first two residents complete the CA-3 TEE track in 2004. Each resident participant spent two months during the CA-3 year focused on TEE as well as some additional time on the cardiac rotation. They logged 170 and 230 TEE exams respectively, attended the one-week SCA-sponsored instructional course, and sat for the certification exam in the spring of their CA-3 year. Although we had no senior residents interested in pursuing this opportunity in ’04-’05, I anticipate that it will continue to be available to those with a focused interest in cardiothoracic anesthesia.

The International Pediatric Anesthesia elective continues to provide our residents with the unique opportunity to practice anesthesia in a third world setting. Drs. Irvine and Niendorff have been the most recent resident participants traveling to The Philippines and Puno, Peru respectively. Courtesy of our three faculty trip leaders, Drs. Beach, Dodge and Jinny Hartman, we have been able to organize up to two trips per year. One of our current seniors, Dr. Peter Rauert, is scheduled to join Dr. Dodge on a medical mission to Vietnam in March, 2005. This has been an extraordinary opportunity for all involved and will continue to be offered, as the opportunity arises, on a competitive basis, to one or two senior residents who have demonstrated exceptional ability and interest in the area of pediatric anesthesia.

The department continues to sponsor an on-site Crisis Resource Management Course for all anesthesia residents utilizing the METI (Medical Education Technologies, Inc) Human Patient Simulator. The full-day Crisis Management experience is a mandatory part of the CA-2 curriculum and, in conjunction with the CA-2 ATLS certification course, is designed to help residents improve their crisis resource management and team building skills. The simulator is also utilized for ACLS and airway management training and has proven to be an invaluable tool for resident education.

We are committed to nurturing a dynamic environment that promotes the learning, teaching, and practice of the clinical, intellectual, and ethical aspects of our specialty. Our program remains well positioned to seek out innovative educational opportunities for our residents and to produce tomorrow’s leaders in Anesthesiology, Critical Care Medicine, and Pain Management.
Combined Leadership Preventive Medicine – Anesthesiology Program

Stephen D. Surgenor, M.D., Ph.D., Resident Coach, Department of Anesthesiology

The Department of Anesthesiology is pleased to include for the first time in this Report a description of the combined Anesthesiology / Leadership Preventive Medicine Residency Program. The goal of this Program is to attract and train anesthesiologists capable of leading change and improvement in systems where people and health care converge. Specifically, this is to be accomplished through the restructuring of existing healthcare systems so that they provide the highest quality of care at the best possible cost.

The Program is divided into a clinical, academic, and practicum components. The clinical component is fulfilled by work in the Department of Anesthesiology. The academic component is achieved by completing a Master of Public Health degree at the Center for Evaluative Clinic Sciences within Dartmouth Medical School. The practicum component is the final step of this program. Each resident selects a comprehensive patient care improvement project that focuses on enhancing technical, service, and cost excellence of care for individual patients. Within the Department of Anesthesiology this is accomplished by having the residents complete Clinical Scientist Track A using six months of their residency to fulfill the academic component. The practicum component is completed during an additional year of residency.

Thus far, two residents have entered this combined Program. One resident has chosen to redesign the epidural postoperative Pain Service so that highly reliable and excellent epidural analgesia is made available to all patients undergoing thoracotomy. The second resident is developing a strategy to implement a sedation team that provides safe and efficient sedation services to gastroenterology patients who either have complex co-morbidities or are planned for painful procedures. A third resident has just been accepted to the Program and will be completing a Critical Care Medicine Fellowship at DHMC in addition to his combined Anesthesiology / Leadership Preventive Medicine Program.

It is the intent of this combined program to educate residents so they will be able to lead and effect change in the healthcare systems in which they work; to provide better care for individuals with the improvements to the health of populations; and to provide leadership during the implementation of the core competencies of the American College of Graduate Medical Education within our specialty.
Medical Student Education

Jinny K. Hartman, M.D. and Steven K. Andeweg, M.D.

In addition to Anesthesiology resident education, another educational mission of the Department of Anesthesiology is the teaching of medical students. The students who come to us work alongside the residents and attending staff for elective rotations of two to six weeks, primarily in their fourth year of medical school. Due to our affiliation with Dartmouth Medical School most of the students are from DMS, although students come from other medical schools around the country as well.

The objective of the elective in Anesthesiology is to provide students with an understanding of how medical knowledge plus modern anesthetic and perioperative care contribute to the outcome of patients undergoing surgery. Secondary objectives include teaching basic airway techniques, fluid management, invasive monitoring capabilities, and regional anesthesia. Additionally, we hope to identify those students who have an interest in pursuing Anesthesiology as a career, and to intellectually stimulate other students who may eventually consider entering our medical specialty.

The medical students are assigned to work with an attending anesthesiologist each day. The students accompany their attending anesthesiologist and the Anesthesiology resident in performing preoperative assessments of patients, and participate in the perioperative anesthetic care of the patients assigned to each anesthesiology care team that day. The students receive one-on-one teaching from the attending anesthesiologists, as well as reading assignments. They also attend weekly Grand Rounds lectures that review interesting topics in Anesthesiology and the latest research in the field, and attend case conferences that discuss interesting patient management situations. The students also are present at either daily or weekly lectures that are part of the didactic education the residents receive.

After they complete their elective rotation, a few students pursue a month-long sub-internship. The students not only receive more teaching and hands-on exposure to anesthetic management in addition to what they were taught in the elective rotation, but they also accompany the residents who are on call one night per week. Most of these students are ones who intend to pursue an Anesthesiology residency, and have a heightened interest in learning about the specialty.

Our department was pleased to note that nearly 13% of all Dartmouth medical students who participated in the residency match program in 2004 went into Anesthesiology, which is higher than the national average. Hopefully, their rotations in our department helped them to choose Anesthesiology as a career. We hope all the medical students who work with us, whether or not they become anesthesiologists, come away with the appreciation of how we use our knowledge of human physiology and pharmacology to provide safe and compassionate care to the patients who are entrusted to us.
Each year one or two senior residents who have excelled both clinically and academically have the opportunity to participate in an international anesthesia experience. This rotation is typically a two week trip to a developing country. Recent trips have been to Myanmar, Vietnam, Bangladesh, the Philippines, Nepal, Ecuador, Brazil, Peru, Bolivia, and Mali.

Many of our trips are with Interplast, a non-profit organization that provides plastic surgery services to developing countries (see www.interplast.org). A typical trip consists of about 12 team members — anesthesiologists, surgeons, and nurses — from across the country and internationally, and many of the team members meet for the first time at the airport. At least one Dartmouth attending anesthesiologist participates and is responsible for resident supervision. However, the resident is expected to function as an integral member of the team. Except for oxygen, the team carries almost all necessary supplies. The first day is spent setting up an operating room and selecting patients, with surgeries taking place over the following two weeks. Anesthesiologists are actively involved in pre-operative evaluation and post-operative care.

The experience is a valuable one for residents. Residents must be able to deliver safe care in an environment that may not be optimal. Advanced airway equipment and invasive monitoring are not available.

In this setting, residents must demonstrate ingenuity and flexibility. Developing a working relationship with health care providers from other institutions demands strong communication skills.

This rotation is fully supported by the Department of Anesthesiology and the rotation contributes to the clinical care requirements of the residency. Currently, three attending anesthesiologists participate in this rotation.

Below a list of the residents and destinations participating on Interplast Rotations during 2000-2005:

- **December 2002** Joe Cecere
  - Piura, Peru
- **March 2002** David Pomerantz
  - Salinas, Ecuador
- **November 2002** Perrin Jones
  - Rio Branco, Brazil
- **April 2003** Cynthia Niendorff
  - Tacloban City
  - The Philippines
- **September 2003** Scott Irvine
  - Puno, Peru

Language barriers, cultural differences, and available medical care may limit the pre-operative assessment. There may not be an intensive care unit to handle complications.
Dr. Glass and Dr. Bertrand have created a dynamic and respected residency program. The PGY-1 year has been tailored to provide a broad experience in the various specialties of medicine and surgery. The talented and versatile staff is the foundation for an outstanding Anesthesiology training experience. Residents are exposed to a wide variety of clinical scenarios and hands-on clinical experiences. These experiences coupled with our extensive academic program afford the opportunity to become a highly skilled anesthesiologist and well-rounded physician.

Residents are part of our Department from day one. Whether fixing a hernia or writing notes on the medicine service, PGY-1 residents are Anesthesiology residents. In addition to the academic experience – which also includes opportunities to participate in research and international medical journeys – residents can commune and socialize with colleagues in the Anesthesiology library and at organized departmental social events such as Dr. Glass’s Summer Party and the Departmental Holiday Party. Anesthesiology residents are also important and active participants in the new resident recruitment process.

The Upper Valley offers a large variety of outdoor activities including hiking, mountain biking, water sports, and skiing. We live in one of cleanest, safest, and beautiful areas in the country. This, combined with a down-to-earth and friendly hospital, makes our residency highly sought after.

MESSAGE FROM THE CHIEF RESIDENT

Heidi Henson, M.D.
The Department of Anesthesiology Resident & Fellow Graduation is a very special event held at the Hanover Inn in June each year. The graduating residents and fellows are honored with diplomas and DHMC armchairs presented by Drs. Glass, Bertrand, Beasley, and Rassias. Throughout the evening many recognition and farewell speeches are heard. Winding up the ceremony at the end of the evening, both the faculty and residents perform skits that highlight their clinical experiences shared during residency training.

2003 Resident Graduates

2004 Resident Graduates

2003 Graduating Fellows

Critical Care Medicine: Pain Management:
Sean McHugh, MD Majid Ghazi, MD
Thomas Merriman, MD
Ratko Vujicic, MD

2004 Graduating Fellows

Critical Care Medicine: Pain Management:
Matthew Koff, MD Jason Brokaw, MD
John McIlwaine, DO Hussam Antoin, MD
William Krimsy, MD Daniel Niendorf, MD
AWARDS

Department of Anesthesiology Teacher of the Year

Each year our Department honors the Teacher of the Year, who is chosen by the residents. The award is presented at the residents’ graduation dinner.

Michael Beach, M.D.
2003 Teacher of the Year

George Blike, M.D.
2004 Teacher of the Year

The Department also recognizes the following:

Outstanding Graduating Resident—Robert D. Dripps Award
2003 Recipient: Ann Bartlett, M.D.
2004 Recipient: Brian Spence, M.D.

Good Physician Award
2004 Recipient: Geoffrey Henson, M.D.

Excellence in Research Award
2004 Recipient: Ryan Loyd, D.O.

Outstanding Graduating Student
2003 Recipient: Adrienne Williams
2004 Recipient: Kirsten Redborg

Adrienne Williams
2003 Outstanding Graduating Student

Kirsten Redborg
2004 Outstanding Graduating Student
Carol Starunko, CRNA
Clinical Coordinator

The DHMC Department of Anesthesiology practices a team approach to anesthesia care with 23 CRNAs from various professional backgrounds and many years of experience.

In addition to our clinical responsibilities, which include general and regional anesthesia in all types of surgical settings and off-sites, some CRNAs serve on various departmental and inter-departmental committees such as Quality Assurance.

Likewise, we hold academic appointments at the Dartmouth Medical School, and as such contribute to the clinical education of medical students rotating through Anesthesiology, as well as other health professionals seeking to learn airway management most especially the DHART (Dartmouth Helicopter Air Rescue Team) personnel.

The Nurse Anesthesia section also enjoys a strong relationship with the University of New England’s Program of Nurse Anesthesia, with staff CRNAs participating as both clinical and didactic instructors. Students consistently rate their DHMC experience as excellent. A yearly regional CRNA CME meeting is crafted by our CRNA Educator and hosted here at DHMC each fall.

Mary Robinson, MBA
Practice Manager

The Department of Anesthesiology provides a work environment of mutual respect among all members, at all levels, in which the administrative support staff thrive as active and valued participants.

The administrative support staff for the Department of Anesthesiology is comprised of fourteen individuals, whose daily mission is to support the clinical, academic, and administrative activities of the Department in the Operating Room/Perioperative Services, Critical Care Medicine, the Pain Management Center, the CHaD PainFree Program, the Palliative Care Service, and the Anesthesiology Research Lab.

The members of this group have varied backgrounds; one member who has spent all 25 years of her working life at DHMC is joined by others who bring a broad range of professional experience to their positions here. They have all come together to form a very cohesive, collaborative, and highly productive team, with a shared determination to meet and exceed the needs of all who interact with our Department: external “customers” such as patients and their families and referring providers; and internal “customers” such as Anesthesiology faculty and staff, and other colleagues throughout the Medical Center.
The Anesthesia Research Laboratory maintains a highly productive basic science and clinical research enterprise. Our research is focused on acute and chronic pain, and on glucocorticoid control of systemic inflammatory responses. In these arenas, we study both fundamental mechanisms and clinical therapeutics. The quality and importance of this research are underscored by the many grant awards recently received by Joyce DeLeo, Ph.D from the National Institutes of Health and from private foundations, and by the presentation of the William L. Garth endowment to Mark Yeager, M.D., in recognition of his research accomplishments.

The basic science program is an integrated effort directed towards understanding interactions between pain, pain treatments, and the immune system. Current investigations of mechanisms that lead to chronic neuropathic pain have led to important insights into spinal responses to pain and to potential therapeutic interventions. These investigations focus on how cells in the spinal cord and cells of the immune system respond to chronic pain in vivo and on the use of novel treatments to modify cellular responses and treat painful neuropathic conditions. Among their many achievements, Dr. DeLeo and her colleagues have demonstrated that central neuroinflammation, as defined by increases in spinal cytokines and glial activation, plays a key role in generating and maintaining chronic pain after peripheral nerve or central nerve root injury. Dr. DeLeo’s research has important clinical implications for both prevention and treatment of chronic neuropathic pain including such widespread conditions as chronic lumbar radiculopathy.

The Research Laboratory also supports ongoing clinical studies based in the Department of Anesthesiology. These investigations form a unified effort directed towards understanding the physiologic impact of trauma and sepsis on patient outcomes with special reference to glucocorticoid control of systemic inflammatory responses. Drs. Yeager, Fillinger, and Rassias have recently completed studies to investigate glucocorticoid control of systemic inflammatory responses during and after cardiac surgery. These studies have added new and important data to this growing literature. Dr. Athos Rassias has recently published his results of a clinical study that tested the effect of transient systemic inflammation on cardiac, hormonal, and leukocyte functional responses. This study is part of an emerging field of study that uses mathematical models of non-linear dynamics to test for increased functional regularity in systemic diseases as a way to evaluate and potentially treat disease states, such as sepsis, that have remained resistant to standard therapies. This model is particularly applicable to patients who are cared for by the Critical Care Medicine specialists in the Department of Anesthesiology.
Extramural Research Funding

Extramural funding for Departmental research projects totaled nearly $2 million in 2003-2004. Grants were awarded to the following projects:

**Steven K. Andeweg, M.D.**
- 2004, DHMC Quality Grant, *Pedi Sedation Emergence Sevoflurane vs. Propofol*

**Marie Bakitas, ARNP**
- 2002-2006, NIH/NINR Co-PI, *Assessing Family Management of Childhood Chronic Illness*
- 2003-2008, NIH/NCI, Co-PI, *ENABLE II*

**George T. Blike, M.D.**
- 2000-2003, NIH subcontract, *Data Display to Detect-Diagnose-Treat Critical Events*
- 2002-2003, NICHD, *Human Factors to Design Safe Pediatric Sedation Systems*
- 2004, Draeger, *LCD Displays*

**Howard L. Corwin, M.D., Athos Rassias, M.D.**

**Joseph P. Cravero, M.D.**
- 2004-2005 NPSF, *Improving the Safety and Efficacy of Pediatric Sedation Practice*

**Joyce DeLeo, Ph.D.**
- 1996 – Present, NIH/NIDA, *Alternatives to Opioids in Chronic Pain Treatment*
- 1997 – Present, NIH/NIAMS, *LBP with Radiculopathy: An Inflammatory Response*
- 2002 – Present, NIH/NCCR, Co-PI, *COBRE: Immune mechanisms controlling inflammation and cancer*
- 2004, Avigen, *Pain Mechanisms*

**Gilbert J. Fanciullo, M.D., M.S.**
- 2003, Janssen, *Pain Management Education*
- 2003-2005, NIH subcontract, *Assessment of Quality of Life by Patients in Pain*
- 2004–2006, NIH subcontract, *Computer Assessment of Pain*

**Catherine F. Jensen, MBA**
- 2004, DHC Quality Grant Co-PI, *Adult Pain-Free Bone Marrow Aspiration / Biopsy Protocol*

**Robert J. Rose, M.D.**
- 2004, DHC Quality Grant, *80ºC vs. Pulsed Radiofrequency for Lumbar Facet Syndrome*

**Brian D. Sites, M.D.**
- 2003, DHC Quality Grant, *Comparison of Post-Operative Pain*

**Mark P. Yeager, M.D.**
- 2002-2007, NIAID, Co-PI, *Critical glucocorticoid/cytokine mechanisms in endotoxemia*
## RESEARCH INTERESTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Research Area</th>
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<tr>
<td><strong>D. David Glass, M.D.</strong></td>
<td>• The role of anesthetic technique in the stress response and outcome</td>
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| **Steven K. Andeweg, M.D.** | • Emergence characteristics of sevoflurane for anesthetic maintenance with intranasal fentanyl compared to propofol for anesthetic maintenance plus intravenous fentanyl for ear tube insertion  
  • The use of a patient simulator to evaluate rescue capability for pediatric sedation critical events  |
| **Michael Beach, M.D., Ph.D.** | • Simulation techniques for sensitivity analysis in observational studies  
  • Covariate selection in clinical trials  
  • Model-based estimates of attributable risk  
  • Adolescent smoking uptake and movie exposure  
  • Increasing preventive services for low-income women  |
| **Marc L. Bertrand, M.D.**  | • Development of computer-based resident evaluation/integrated feedback system            |
| **George T. Blike, M.D.**   | • Human factors  
  • Human patient simulation  
  • Anesthesia patient safety  
  • Medical information displays  |
| **Howard L. Corwin, M.D.**  | • Anemia and blood transfusion in the critically ill  
  • Erythropoietin therapy in the critically ill  
  • ICU organization and cost  |
| **Jeffrey A. Clark, M.D.**  | • Echocardiography  |
| **Joseph P. Cravero, M.D.** | • Emergence agitation  
  • Pediatric sedation  
  • Human patient simulation  |
| **Joyce A. DeLeo, Ph.D.**   | • Role of the immune system in acute/chronic pain  
  • Neuroimmune activation following nerve injury  
  • Role of inflammatory mechanisms in lumbar radiculopathy (low back pain)  
  • Chemotherapy-induced cognitive deficits and the role of central cytokine production  
  • Role of central neuroimmune responses in opioid tolerance and opioid-induced hyperalgesia  |
| **Thomas P. Dodds, M.D.**   | • Anesthesiology Department management  
  • Perioperative management of cardiac disease for non-cardiac surgery  |
| **Carter P. Dodge, M.D.**   | • Recovery from pediatric brain injury  |
| **Gilbert J. Fanciullo, M.D., M.S.** | • Opioids for non-terminal pain  
  • New computer applications for clinical management of patients with chronic pain and serious illnesses  |
| **Mary P. Fillinger, M.D.** | • Cardiac surgery and outcomes research  
  • Pharmacologic cardioprotection and non-cardiac surgery  |
| **Andrew Gettinger, M.D.**  | • Monitoring equipment  
  • Transfusion medicine  
  • Informatics  
  • Issues of patient confidentiality  |
| **Gregg S. Hartman, M.D.**  | • TEE simulation/Virtual TEE  
  • Northern New England Study Group projects  
  • Neurological outcomes post CPB  
  • Low hematocrit on CPB  
  • Heart Rate and Outcome  |
| **Johan Lundberg, M.D.**    | • Anesthesia techniques and outcome studies for major non-cardiac surgery  
  • Intra- and postoperative analgesia techniques  
  • Microdialysis monitoring of perioperative metabolism and morphine pharmacology  |
| **Frederick M. Perkins, M.D.** | • Chronic pain following surgery  |
| **Marcia A. Procopio, M.D.** | • Effects of anesthetics on cellular immune function  
  • Effects of acute pain on circulating and central cytokine response  |
| **Athos J. Rassias, M.D.**  | • Effect of glucose control on aspects of cellular immunity in diabetic and non-diabetic cardiac surgery patients  
  • The interaction between cellular immune function, interleukins, and glucocorticoids  
  • Non-linear deterministic (chaos) assessment of human immunity  
  • Regional improvement in cardiac surgical outcomes - the Northern New England Cardiovascular Study Group  |
| **Jeffrey S. Shiffrin, M.D.** | • Regional anesthesia and post operative pain management  
  • Hypobaric hypoxemia and physiology of exercise and mountain illness  
  • Information Technology and medicine  |
| **Brian D. Sites, M.D.**    | • Intrathecal clonidine and postoperative analgesia of total knee arthroplasty  
  • Comparison of femoral nerve block versus intrathecal morphine for providing postoperative analgesia after total knee arthroplasty  
  • Single-dose caudal anesthesia for infants undergoing diagnostic brain magnetic resonance imaging; high risk and non-high risk  |
| **Christopher W. Wiley, M.D.** | • Regional anesthesia/spinal and continuous spinal techniques  
  • Clinical research on invented continuous spinal catheter  
  • Ultrasound-guided techniques for regional anesthesia  
  • Computer-based interactive simulation of regional anesthesia procedures with high resolution graphics and tactile feedback  
  • Nanotechnology and the future of medicine  |
| **Mark P. Yeager, M.D.**    | • Glucocorticoid control of the human inflammatory response  
  • Non-linear dynamical modeling of human sepsis  
  • CD163 as an anti-inflammatory component of human innate immunity  
  • Pharmacokinetic-based treatment of pulmonary hypertension  
  • CD163 as an anti-inflammatory component of human innate immunity  |

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30 Department of Anesthesiology
Abstracts


Sorensen JA, Jensen J, Michele LR, Schlosser EM, Blike GT. Use of Simulation to Define Learning Curve Associated with Multidisciplinary Team Performance in Managing an Obstetric Emergency. ASA 2004 Annual Meeting.


Peer-Reviewed Articles


Grau MV, Baron JA, Sandler RS, et al. (Beach). Vitamin D, calcium supplementation, and colorectal adenomas: results of a randomized trial.[see comment]. Journal of the National Cancer Institute Dec 3 2003;95(23):1765-1771.


Metzsch C, Lundberg CJF, Danielsson P, Norgren L. Microdialysate metabolites


Yeager MP, Fillinger MP, Guyre PM, Gregory JA, DiScipio AW. Cortisol anti-inflammatory effects are maximal at post-operative plasma concentrations. Accepted for publication 2004. Critical Care Medicine.

Chapters


Girault G, Fanciullo GJ. New Techniques in the Treatment of Ischemic Pain. In: Warfield CA and Bajwa Z (eds), Principles
Editorials


Other Special Publications


Blike GT, Cravero JP. Use of Standardized Simulated Events As A Provocative Test For Medical Care System Rescue Capabilities. Advances in Patient Safety: From Research to Implementation. AHRQ Special Publication 2004.


Fanciullo GJ. Point of View- Patterns and trends in opioid use among individuals with back pain in the United States. 2003 *Spine*.

Carter CL, Maloney LL. Crunch Time: Resident Work Hour Limits Force Hospitals to Get Creative. *Alliance Magazine* (Published by VHA, Inc.) May 2003; 7-11.


Invited Presentations
2003–2004

Andeweg
“General Anesthesia for the Adult Ambulatory Patient”. PACU Nursing Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

Bakitas
“The Last 48 hours of Life”. Disseminating End of Life Education to Comprehensive Cancer Centers Conf, City of Hope National Medical Center, Pasadena CA

“Neuropathic Pain from Bench to Bedside”. Annual Pain Conference, Dartmouth-Hitchcock Medical Center, Lebanon, NH

“Integrating Palliative Care into Your Setting: Lessons from the Trenches”. Annual Hospice and Palliative Care Conf, Lancaster NH

“The Art and Science of Palliative Nursing”. Harvard Palliative Care Educational Conference, Waltham MA

“An Overview of Neuropathic Pain”. ARNP Retreat, Dartmouth-Hitchcock Medical Center, Lebanon NH

Beasley


Blike
“Working as a Team: Common Pitfalls, Opportunities to Improve”. Improving Emergency Cesarean Deliveries, NNEPQIN Workshop, Dartmouth-Hitchcock Medical Center, Lebanon, NH


“Improving Procedural Pain Management — The Pediatric Experience”. Medical Grand Rounds Pain Plenary Session, Dartmouth–Hitchcock Medical Center, Lebanon NH

Byock
“The Best Care Possible” – What It Means at the End of Life and How to Get It”. Community Medical Center Foundation, Minerva Society Lecture, Missoula MT


“Advocacy and Activism: The Quest to Improve Pain Management and End of Life, Dying Well: Reclaiming the End of Life, Completing the Continuum of Cancer Care: Integrating Life–Prolongation and Palliation”. The Ethics Consortium of the Tarrant County Academy of Medicine, Fort Worth TX


“Prevention and Patient Safety”. A Dartmouth-Hitchcock Leadership Preventive Medicine Residency Evening Seminar, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Pediatric Sedation Safety”; Annual Perinatal Conference, Oxford VT


“The Conundrum of Patient Safety: Implications for the Specialty of Anesthesiology”. Drexel University College of Medicine Grand Rounds Visiting Professor, Philadelphia PA


“Patient Safety in the Surgical Domain,” Moderator and faculty for Collaboration Workshop for West Palm Beach VA Hospital, West Palm Beach FL

Workshop for Technology in Anesthesia Annual Meeting, Albuquerque NM

“Every Picture Tells a Story: The Use of Video to Improve Safety”. Error Reenactments Disseminated with Streaming Video, National Patient Safety Foundation Conference, Washington DC

Diego CA; National Association of Attorneys General, “The Vision vs. The Reality” Listening Conference on Improving End-of-Life-Care, Baltimore MD


“Completing the Continuum of Life: Reflections on Care, Culture & Community, Human Development through the End of Life: The Nature of Suffering and the Nature of Opportunity”. Lower Cape Fear Hospice, Reflections on Palliative Care, Wilmington NC

“The Nature of Suffering and the Nature of Opportunity at the End of Life”. Cabot Eliot Lecture, Completing the Continuum of Life - Reflections on Care, Culture and Community, Grand Rounds, Harvard Medical School Center for Palliative Care, Boston MA; California Medical Association, Pain Management and End of Life Care in California’s Regulatory Environment, Santa Clara CA; Grand Rounds, Rhode Island Hospital, Providence RI; ‘American Osteopathic Association’s End-of-Life Care - National Osteopathic Workshop; ‘EPEC Training Course and End-of-Life Seminar in the Pacific Northwest, Portland OR

“Reclaiming the End of Life: A Community-based Approach to Improving the Quality of Life’s End, Dying Well: Beyond Symptoms and Suffering-Human Development at the End of Life”. Kansas City Hospice, Spring Conference, Matters of Life and Death, Kansas City MO

“The Best Possible Care at the End of Life (and How to Get It)”. Provena Covenant Hospice Care Program, a Celebration of National Volunteer Week, Urbana IL

“Communication and Anticipatory Guidance: Therapeutic Modalities for Aging and Dying Well”. Montana Gerontology Society Annual Meeting, Missoula MT


“Reclaiming the End of Life, Providing The Best Care Possible at the End of Life”. University of Ottawa Institute of Palliative Care, Ottawa Canada

“Completing the Continuum of Care - Preserving the Opportunity to Die Well, The Best Care Possible at End of Life - What Does It Look Like and How Do We Get it?” Beyond Symptoms & Suffering: Human Development at the End of Life; End of Life Care: Crisis & Opportunity”. Providence Alaska Medical Center, Anchorage AK

“Concurrent Care — New Models and Successful Strategies for Aligning Access, Quality and Costs, Serving Veterans — Opportunities for Creative Collaborations”. National Hospice and Palliative Care Organization, 18th Management and Leadership Conference, Hospice and Palliative Care: Expanding Our Future, Phoenix AZ

“The Meaning of Death — Reflections of Life, Caring and Community”. Hospice of the Valley, Spiritual Care at Life’s End: A Programs for Clergy and Spiritual Leaders, Phoenix AZ

“Creating and Celebrating Caring Communities, Promoting Wellness Through the End of Life — for us all!” Annual Van Eisenhut Conference on Psycho-social Care, Willamette Valley Hospice, Salem OR

“The Best Care Possible at the End of Life, Reclaiming the End of Life: Opportunity within Crisis”. Longview Hospice, 3rd Annual Seldon Graham Memorial Lectureship in End of Life Care, Longview TX

“Walking Life’s Journey Together: Communication and Anticipatory Guidance for Aging and Dying Well, Giving and Getting The Best Care Possible at the End of Life”. Hospice Education Committee, Rockford IL


“Compassion in Critical Care: Biology, Philosophy and Pragmatism”. 9th Annual International Scientific Assembly, American College of CHEST Physicians, Orlando FL

“Getting the Best Care Possible Through the End of Life”. Life’s End Institute — Missoula Demonstration Project, Missoula MT

“The Best Care Possible at the End of Life, Dying Well: Nature of Suffering and Nature of Opportunity at the End of Life”. Hospice of Dayton, Dayton OH

“Dying Well: Alleviating Suffering and Preserving Opportunity Through the End of Life, Giving and Getting The Best Care Possible at the End of Life”. Continuing Care Beyond Cure, Washington County Hospital, Hagerstown MD
“Completing the Continuum of Care: Integrating Palliation within Health Service Delivery and Research”. 6th Annual Lecture Series, Johns Hopkins University School of Medicine, Baltimore MD

“Creating Community Change: Thinking Outside the Healthcare Box”. Rallying Points National Conference ...One Community At A Time, Boston MA

“Palliative Care: Advances and Understanding Hospice in End-of-Life Care”. Rhode Island Attorney General’s Task Force on End-of-Life Care, Providence RI

**Chaimberg**
Panel Member, Robert Wood Johnson Research Fellows Conference on Addiction, Hanover NH

**Corwin**
Faculty, 2003 Annual Meeting, Society of Critical Care Medicine, San Antonio TX; 2004 Annual Meeting, Orlando FL

Renal Conference, Section of Nephrology, University of Texas School of Medicine, San Antonio TX

City-wide Critical Care Rounds, Toronto University School of Medicine, Toronto Canada

Faculty, 23rd International Symposium on Intensive Care and Emergency Medicine, Brussels Belgium

Critical Care Grand Rounds, Ottawa General Hospital, University of Ottawa, Ottawa Canada

Critical Care Grand Rounds, Mount Sinai Medical Center, New York NY

Medical Grand Rounds, Rush Medical Center, Chicago IL

Faculty, Symposium, Anemia in the ICU. University of Pittsburgh Medical Center, Pittsburgh PA

Pulmonary Critical Care Rounds, Cleveland Clinic, Cleveland OH

Visiting Professor, University British Columbia, Critical Care, Vancouver Canada

Medical Grand Rounds, University of Alberta, Edmonton Canada

Faculty, 1st North American Symposium, NATA, San Francisco CA

Faculty, Society for Advancement of Blood Management, 2003 Annual Meeting, San Diego CA; 2004 Annual Meeting, Miami FL

Faculty, Panhellenic Critical Care Conference, Athens Greece

Faculty, 2003 Annual Meeting, American College of Chest Physicians, Orlando FL; 2004 Annual Meeting, Seattle WA

Faculty, 2003 Annual Meeting, American Association of Blood Banking, San Diego CA

Faculty, 2004 Annual Meeting, Neuro Critical Care Society, San Diego CA

Faculty, Society for Advancement of Blood Management, Regional Meeting, Philadelphia PA

Pulmonary Critical Care Rounds, Medical College of Virginia, Richmond VA

Meeting Chair, National Visiting Professor Program Management of Hypertensive Emergencies, ESP Pharma, Denver CO and New York NY

Visiting Professor, Drexel University School of Medicine, Philadelphia PA

Surgical Grand Rounds, Critical Care Grand Rounds, St. John’s Mercy Medical Center, St Louis MO

Faculty, 17th Annual Trauma Care Conference, St Louis MO

Critical Care Grand Rounds, University of Miami Jackson Memorial Hospital, Miami FL

Faculty, 2004 Critical Care Symposium, Stanford University, Redwood City CA

Visiting Professor, Critical Care, University of Wisconsin, Madison WI

Faculty, 2004 International Symposium on Blood Management, Miami FL

**Cravero**

“Improving Procedural Pain Management — The Pediatric Experience”. Medical Grand Rounds, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Pediatric, Infant, and Neonatal Pain Control”. Dartmouth Pediatric Conference, North Conway NH
“Perioperative Pediatric Anesthesia Issues”. PACU 2003: Facing New Challenges Nursing Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Management of the Pediatric difficult Airway”. Hartford Hospital Symposium on the Management of the Difficult Airway, Hartford CT

“Emergence Delirium”. Perioperative Care Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Pediatric Pain Control”. Pediatric Nurse Management Meeting, Concord NH

“Pediatric Sedation”. Grand Rounds, Springfield Hospital, Springfield VT

“Pediatric Emergency Airway Management”. Airway Management Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Pediatric Sedation for the House Officer”. Department of Pediatrics, Dartmouth-Hitchcock Medical Center, Lebanon NH

“PainFree Program for CHaD”. Transforming Medicine Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Pediatric Sedation for Community Hospitals”. Monadnock Community Hospital Medical Grand Rounds, Peterborough NH

“History and Future of Human Simulation”. Society for Critical Care Medicine 2003 Annual Meeting, San Antonio TX

“Current Issues in Pediatric Sedation”. Baxter Breakfast Lecture, Society for Pediatric Anesthesia 2003 Annual Winter Meeting, Sanibel Island FL

“Update on PALS”. Society for Pediatric Anesthesia 2003 Annual Winter Meeting, Sanibel Island FL

“Sedation Outside the ICU”. PICU World Congress, Boston MA

“New Sedation Solutions”. Society for Pediatric Anesthesia 2004 Winter Meeting, Phoenix AZ

“New Methods for Evaluating Safety and Efficacy of Pediatric Sedation Services”. Pediatric Grand Rounds, Seattle Children’s Hospital, Seattle WA


“Privileging and Credentialing Sedation Providers”. 1st International Multispecialty Conference on Pediatric Sedation, Denver CO

“New Methods for Evaluating Pediatric Sedation Practice”. Visiting Professor, New York University Medical Center Grand Rounds, New York NY

“New Methods for Evaluating the Safety and Efficacy of Pediatric Sedation Practice”. Grand Rounds, Connecticut Children’s Medical Center, Hartford CT

“New Methods of Intravenous Analgesia in Children”. New England Pain Association 2004 Annual Meeting, Manchester NH

“How Do We Assure High Quality Sedation for All Pediatric Procedural Sedation?”. Expert Panel lecture and discussion, American Society of Anesthesiologists 2004 Annual Meeting, Las Vegas NV

“Pediatric Sedation National Trends”. Keynote Lecture for Alfred I. DuPont First Annual Conference on Excellence in Pediatric Sedation, Wilmington DE

Dewhirst

“Challenges in the Pulmonary Patient”, DHMC Respiratory Care Conference, Manchester NH

Dodge

“Occupational Transmission of TB”. Perioperative Services, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Update on OR Administration”. New England Society of Anesthesiologists 2003 Annual Meeting, Chatham MA

“Anesthesia: General, Local, and I.V.”. Dartmouth Hitchcock Medical School

“General Pediatric vs. Adult Considerations”. Fundamentals of Critical Care Medicine (Society of Critical Care Medicine), Dartmouth-Hitchcock Medical Center, Lebanon NH

“Emergency Airway Management for Pediatrics”. Airway Management Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

Fanciullo

“The Use of Opioids for Chronic Noncancer Pain”. Massachusetts General Hospital, Boston MA
“Spinal Analgesia. Principles and Practice of Pain Medicine”. Harvard Medical School, Boston MA

“Cancer Pain and Palliative Care in Adults. Principles and Practice of Pain Medicine”. Harvard Medical School, Boston MA

“Evidence Based Interventional Pain Treatment”. New England Pain Association, Manchester NH

**Fillinger**

“Should perioperative beta-blockade be standard of care for non-cardiac surgical patients?” Vascular Surgery Grand Rounds, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Myocardial Ischemia and Infarction: Should All Cardiac Cases Receive Beta Blockade?” (co-presented with Dennis Mangano MD). Problem Based Learning Discussion, Society of Cardiovascular Anesthesiologists 2004 Annual Meeting

**Gallagher**

“Arrhythmia Management”, World Congress of Anesthesiologists, Paris France

“Pacing for Bradycardia”, 2004 ASA Annual Meeting, Las Vegas NV

**Gettinger**

“Managing Anemia in the Critically Ill Patient”. Visiting Professor, Wake Forest University Baptist Medical Center, Winston Salem NC; Visiting Professor, Triangle Critical Care Society, Raleigh NC

“Dilemmas in Anesthetic Practice: Anemia in the Perioperative Period: When and Who to Transfuse?” Postgraduate Assembly in Anesthesiology, 2003 Annual Meeting, New York NY

“Managing Anemia in the Trauma Patient”. Visiting Professor, Inova Hospital, Falls Church VA

“Operating Room Efficiency: An Evaluation of Scanned Surgical Consents”. American Medical Informatics Association, MedInfo 2004 Poster Session, San Francisco CA

“Controversies in Clinical Management: Point Counterpoint — Colloid Versus Crystalloid: Is the Controversy Dead?” Panelist, American Society of Anesthesiologists 2004 Annual Meeting, Las Vegas NV


**Glass**

“Management of Perioperative Stress Responses: Implications for Patient Outcomes”. The 2003 Myer H. Rosenthal Distinguished Lecture, University of Texas-MD Anderson Cancer Center, Houston TX; Visiting Professor, Grand Rounds, University of Texas Health Science Center, Houston TX

**Jarrett**

“Blocks: Implications for Recovery”. DHMC Nursing, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Techniques for Awake Intubation”. Airway Management Conference, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Airway Lecture”. Weeks Medical Center, Lancaster NH

“Evaluating Acute Respiratory Decompensation”. Department of Surgery, Dartmouth-Hitchcock Medical Center, Lebanon NH

**Lundberg**

“Fluid Balance During Epidural Anesthesia”. Annual Anesthesiology Conference, Örebro University Hospital, Örebro Sweden

**Maloney**

“Striving to Achieve the Institute of Medicine Goals to Improve Health Care Quality”. Central Vermont Medical Center, Berlin VT


“A Day of Dialogue on RN/MD Relations”. Panel discussion sponsored by the American Organization of Nurse Executives, Washington DC

**Rassias**

“Nitric Oxide in the Cardiac Surgical Patient”. Challenges in the Pulmonary Patient - (18th Annual Symposium), Department of Respiratory Care, Dartmouth-Hitchcock Medical Center, Lebanon NH

“Acute Coronary Syndromes”. Fundamentals of Critical Care Medicine Course (Society of Critical Care Medicine), Dartmouth-Hitchcock Medical Center, Lebanon NH

“Inhaled Nitric Oxide and Right Heart Failure.” Department of Cardiology, Dartmouth-Hitchcock Medical Center, Lebanon NH
Szczepeaniak
“Symptom Management in the Final Hours: Beyond Pain”. Palliative Care: A Pragmatic Approach, Dartmouth-Hitchcock Medical Center and St. Anselm College, Concord NH

“End of life Care for the Geriatric Patient”. Gerontology Update, Dartmouth Hitchcock Medical Center, Lebanon NH

“Pain Issues and the Older Person”. Nursing Connections, Central Vermont Medical Center, Berlin VT

“Palliative Care: Integrating Quality EOL Care Across Settings”. Nursing Connections, Central Vermont Medical Center, Berlin VT

“Evidence-based Cancer Pain Management”. New Horizons in Evidence Based Oncology Nursing Practice, ONS of Vermont and NH

“Improving Palliative Care for the CHF and COPD Patient” (presented with Joan Doody, MSN, ARNP). Gerontology Update, Dartmouth Hitchcock Medical Center, Lebanon NH

“Palliative Care for the Lung Cancer Patient”. National Hospice and Palliative Nurses Association, Web Conference

“From Confusion to Clarity: addressing Mental Status Changes in the Oncology Patient”. North East Regional Oncology Nurses Conference, Portsmouth NH

Surgenor
“Anesthesia in the Critically Ill Patient: New Treatments and Techniques”. Visiting Professor, University of Vermont Perspectives on Anesthesia Conference, Burlington VT

“Optimizing Red Blood Cell Transfusion Practice in the Operating Room”. Visiting Professor, University of Vermont Perspectives on Anesthesia Conference, Burlington VT

“PA Catheters and Goal Directed Therapy”. Northern New England Cardiovascular Disease Study Group Meeting, Bedford NH

“Critical Care Medicine for the Anesthesiologist”. Maine Society of Anesthesiologists 2003 Annual Meeting, Sugarloaf ME

Wiley
“Ultrasound-Guided Regional Anesthesia”. Workshop, Seattle WA

“The Promise of Nanotechnology: Robots in Your Bloodstream”. University of Medicine and Dentistry of New Jersey, Newark NJ

“Introduction to Nanotechnology”. Colby-Sawyer College, New London NH

“Medicine, Molecular Machines, and the Human Body”. Wake Forest University School of Medicine, Winston-Salem NC

“Nanotechnology - The Virtual Made Actual”. International Meeting on Medical Simulation, Society for Technology in Anesthesia (Joint Session); Panel Chair

Yeager
Abstracts

Raghavendra V, DeLeo JA. Peripheral inflammation evokes exaggerated glial activation and proinflammatory cytokine expression in the CNS, 6th World Congress on Inflammation, Vancouver, Canada, 2003.


Peer-Reviewed Articles


Raghavendra V, Tanga F, DeLeo JA. The role of N-methyl-D-aspartate receptor NR1 subunit in peripheral nerve injury-induced mechanical allodynia, glial activation and chemokine expression in the mouse. Neuroscience 2004; 125:269-275.


LaCroix-Fralish M, Mogil JS, Rutkowski MD, Weinstein JN and DeLeo JA. The magnitude of mechanical allodynia in rodent models of lumbar radiculopathy is dependent on strain and sex. Spine 2004 (accepted).

LaCroix-Fralish M and DeLeo JA. The role of activational and organizational sex hormones in radicular pain in a rodent model of sciatica. Pain 2004 (in revision).
Chapters


Review Articles


Invited Presentations 2003–2004

The Dichotomy of CNS Autoimmunity in Radicular Low Back Pain. Department of Orthopaedic Surgery, Grand Rounds, Dartmouth Hitchcock Medical Center, Lebanon, NH

Role of Neuroimmune Activation and Neuroinflammation in Persistent Pain. Veterans Administration Research Grand Rounds, White River Junction, VT

Neuropathic Pain: From Bench to Bedside, Part I. At The Many Faces of Pain, Center for Continuing Education, Dartmouth-Hitchcock Medical Center, Lebanon, NH

Panel discussion on Service and Recovery: Substance Abuse. First annual Dartmouth Substance Abuse symposium, Dartmouth College, NH

Celebrating Dartmouth Medicine, Pain, Suffering and Opportunity, Dartmouth-Hitchcock Medical Center, Lebanon, NH

Orthopaedic Surgery Grand Rounds, Basic Science Perspectives of Radicular/Disc Pain, Dartmouth-Hitchcock Medical Center, Lebanon, NH

Medical School Dean: Distinguished Lecture Series. The Dichotomy of CNS Autoimmunity: Relationship to Neuroprotection and Chronic Pain, University of Florida at Gainesville, FL

The Role of CNS Innate Immunity in Chronic Pain: Potential for Novel Therapy, Boston University, Boston, MA

Immunologic Responses to Nerve Injury: Potential for Novel Therapy for Chronic Pain, American Association of Anatomists, Experimental Biology, Washington, DC

MHC Class II in Neuropathic Pain. Peptimmune/Medivir, Inc., Cambridge, MA

Animal Models to Elucidate Mechanisms of Low Back Pain International Brain Research Organization (IBRO), Prague, Czech Republic

The Role of Neuroimmune Activation and Neuroinflammation in Chronic Pain and Opioid Tolerance, McGill University, Montreal, Canada

Overview: The Microglia/Astrocyte/Neuron Triad: CNS Sensitization in Persistent Pain. Spring Pain Research Conference, Symposium Chair, Grand Cayman, BWI
D. David Glass, M.D.
- Committee on Practice Parameters, American Society of Anesthesiologists
- Committee on Refresher Courses, American Society of Anesthesiologists
- Committee on Academic Anesthesiologists, American Society of Anesthesiologists
- Docent, American Board of Anesthesiology
- Chairman, ACGME Duty Hour Subcommittee
- Representative to ACGME from American Board of Medical Specialties
- Vice Chairman, Board of Directors, The Foundation for Anesthesia Education and Research
- Pediatric Research Council, The Foundation for Anesthesia Education and Research
- Finance Committee, The Foundation for Anesthesia Education and Research

Joseph P. Annis, M.D.
- Delegate (Texas), American Medical Association
- Chair-elect, American Medical Association's Council on Medical Service
- Delegate (Texas), American Society of Anesthesiologists
- Committee for Task Force on Future Paradigms for Anesthesia Practice, American Society of Anesthesiologists
- Representative for the American Society of Anesthesiologists to the Council on Perioperative Patient Safety
- Board of Governors, St. David's Healthcare Partnership

Marie Bakitas, ARNP
- Certified Hospice/Palliative Nurse of the Year Award, Hospice/Palliative Nurses Assoc., 2003

Michael Beach, M.D.
- Chair, Anesthesia Committee, Interplast
- Medical Services Committee, Interplast

Marc Bertrand, M.D.
- Specialty Site Surveyor, Accreditation Council for Graduate Medical Education (ACGME)

George Blike, M.D.
- Volunteer Hospital Association Leadership Award — Best New Clinical Program for CHaD PainFree Program, 2003 (co-recipient with Joseph Cravero, M.D.)
- Faculty/Consult Quals Healthcare Center for Medicare Services
- Education Committee Society for Technology in Anesthesia
- Society for Technology in Anesthesia Annual Meeting Program Chair

Howard Corwin, M.D.
- Program Committee, Society for Advancement of Blood Management
- Steering Committee, Critical Care Institute, American College of Chest Physicians
- Committee, Guidelines for Granting Privileges, Society of Critical Care Medicine
- Board of Directors, Society for Advancement of Blood Management
- Education Committee, Society for Advancement of Blood Management

Joseph Cravero, M.D.
- Liaison Member, American Academy of Pediatrics — Committee on Pediatric Emergency Medicine
- State of New Hampshire Medical Control Board
- Executive Committee of the American Academy of Pediatrics — Section on Pediatric Anesthesia
- American College of Emergency Physicians Taskforce on Pediatric Sedation
- American Society of Anesthesiologists for development of pediatric sedation guidelines
- Founder and President of the Pediatric Sedation Research Consortium.
- Junior Editor for the In-Training Examination — American Board of Anesthesiology
- Volunteer Hospital Association Leadership Award — Best New Clinical Program for CHaD PainFree Program, 2003 (co-recipient with George Blike, M.D.)
- Invited Editor: Pediatrics, Anesthesia and Analgesia, American Journal of Diseases of Children and Adolescents, Clinical Journal of Anesthesiology
- Founder/editor: Pediatric Sedation Newsletter— Semimonthly newsletter with a circulation of over 3,000

Thomas P. Dodds, M.D.
- Board of Trustees, Dartmouth-Hitchcock Clinic, Mary Hitchcock Memorial Hospital

Carter Dodge, M.D.
- Senior examiner American Board of Anesthesiology
- Written exam editor American Board of Anesthesiology
- Volunteer-Interplast trip to Cao Lanh, Vietnam

Gilbert J. Fanciullo, M.D., M.S.
- Nominations Committee, American Pain Society

John Gallagher, M.D.
- American Society of Anesthesiologists Taskforce on Guidelines for the Perioperative Management of Patients with Permanently Implanted Cardiac Rhythm Management Devices
- Vice President, NH State Society of Anesthesiologists

Andrew Gettinger, M.D.
- Committee on Education, American Society of Critical Care Anesthesiologists
- Group on Information Resources (GIR), AAMC
- Committee on Public Policy, American Medical Informatics Association
- Committee on Continuing Medical Education (CME) Strategic Planning, American Society of Anesthesiologists

Daniel Graubert, M.D.
- Director at large, NH chapter of American Society of Interventional Pain Physicians

Sean K. Hunt, M.D.
- Secretary/Treasurer, New Hampshire Society of Anesthesiologists
- ASA House of Delegates

Johan Lundberg, M.D.
- Editor, Editorial Board of Acta Anaesthesiologica Scandinavica

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- Chair, Project Review Committee
- Strategic Planning Committee
- VHA National Physician Leadership Council
- Vermont Physicians Clinic Community Advisory Board
- Associate Examiner, American Board of Anesthesiology
- Flexus Institute
- Northeast Health Care Quality Foundation Board of Directors
- Chair, VHA New England Physicians Executive Council

Frederick Perkins, M.D.
- National VA anesthesia equipment committee

Timothy J. Quill, M.D.
- ASA Board of Directors
- ASA Committee on Scientific Affairs - Chairman
- ASA Committee on Future Meeting Sites
- ASA Task Force on Travel Reimbursement
- Dartmouth Medical School Admissions Committee

Athos J. Rassias, M.D.
- Abstract reviewer: American College of Chest Physicians 69th Annual Meeting
- Abstract reviewer: American College of Chest Physicians 70th Annual Meeting

Steve Surgenor, M.D., Ph.D.
- Alternate Director, New Hampshire Society of Anesthesiologists

Mark Yeager, M.D.
- Associate Editor: Regional Anesthesia and Pain Medicine
- Invited Reviewer: Acta Anaesthesiologica Scandinavica; Acute Pain Society Journal; Anesthesia and Analgesia; Anesthesiology; Journal of Clinical Anesthesia; Journal of Cardiovascular & Thoracic Anesthesia; Brain, Behavior, and Immunity

Biennial Report 2003-2004
D. David Glass, M.D.  
Chairman of Anesthesiology  
Professor of Anesthesiology and Medicine  
Special Interests: critical care medicine; cardiothoracic anesthesia

Joseph Annis, M.D.  
Adjunct Assistant Professor of Anesthesiology

Steven Andwege, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: pediatric anesthesia; post anesthesia care unit

John Arbogast, III, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: management of chronic pain, RSD, acupuncture

Marc Bertrand, M.D., Ph.D.  
Associate Professor of Anesthesiology and Community and Family Medicine  
Special Interests: statistical analysis of clinical trials

Ralph Beasley, M.D.  
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Special Interests: management of chronic pain, RSD, acupuncture

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Special Interests: neuroanesthesia

Harry Bird, M.D.  
Emeritus Professor of Anesthesiology

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Associate Professor of Anesthesiology and Obstetrics  
Special Interests: obstetric anesthesia; pediatric sedation; high risk obstetric anesthesia; cardiovascular anesthesia

Frances Brokaw, M.D.  
Assistant Professor of Medicine & Anesthesiology  
Special Interests: palliative medicine

Kenneth Burchard, M.D.  
Professor of Surgery & Anesthesiology  
Special Interests: critical care medicine

Ira Byock, M.D.  
Professor of Anesthesiology  
Special Interests: end of life care

Kathleen Chaimberg, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: cardiothoracic and vascular anesthesia

Jeffrey Clark, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: echocardiography

Howard Corwin, M.D.  
Professor of Anesthesiology and Medicine  
Special Interests: critical care medicine

Joseph Cravero, M.D.  
Associate Professor of Anesthesiology and Pediatrics  
Special Interests: pediatric anesthesia

Joyce DeLeo, Ph.D.  
Professor of Anesthesiology and Pharmacology  
Special Interests: neuropathic pain research

William Dewhurst, M.D.  
Associate Professor of Anesthesiology  
Special Interests: critical care medicine; cardiovascular anesthesia; post anesthesia care unit

Thomas Dodds, M.D.  
Vice Chair and Associate Professor of Anesthesiology  
Special Interests: cardiovascular and vascular anesthesia

Carter Dodge, M.D.  
Associate Professor of Anesthesiology and Pediatrics  
Special Interests: pediatric and obstetric anesthesia

Gilbert Fanciullo, M.D., M.S.  
Associate Professor of Anesthesiology  
Special Interests: management of chronic pain; cancer pain management; palliative medicine

Mary Fillinger, M.D.  
Associate Professor of Anesthesiology  
Special Interests: cardiovascular and vascular anesthesia

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Professor of Anesthesiology  
Special Interests: cardiothoracic anesthesia

Andrew Gettigner, M.D.  
Associate Professor of Anesthesiology  
Special Interests: critical care medicine; transfusion medicine

Daniel Graubert, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: pain management

Marcus Hampers, M.D.  
Instructor in Emergency Medicine & Anesthesiology  
Special Interests: critical care medicine

Gregg Hartman, M.D.  
Professor of Anesthesiology  
Special Interests: echocardiography TEE

Jinny Hartman, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: obstetrics; acupuncture

Geoff Henson, M.D.  
Instructor in Anesthesiology  
Special Interests: pediatric anesthesia, resource management, regional blocks

Catherine Hunt, M.D.  
Staff Anesthesiologist  
DHC-Manchester

Sean Hunt, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: ambulatory anesthesia

Sharon Ikeda, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: pediatric anesthesia

Robert Jarrett, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: anesthesia for oncology; regional analgesia; pediatric anesthesia; airway management and devices

Rebecca Kadish, M.D.  
Staff Anesthesiologist  
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Paul Kispert, M.D.  
Assistant Professor of Surgery & Anesthesiology  
Special Interests: critical care medicine

Susanne Learmonth, M.D.  
Associate Professor Emeritus of Anesthesiology

C. Johan Lundberg, M.D., Ph.D.  
Adjunct Professor of Anesthesiology  
Special Interests: vascular anesthesia

Peter Lunt, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: regional anesthesia

LisaBeth Maloney, M.D.  
Associate Professor of Anesthesiology  
Medical Director, Dartmouth Hitchcock Medical Center  
Special Interests: neurovascular anesthesia; anesthesia for laser surgery of the airway

Harold Manning, M.D.  
Associate Professor of Medicine, Physiology & Anesthesiology  
Special Interests: critical care medicine

David Mayer, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: cardiac anesthesia

Diane Palac, M.D.  
Assistant Professor of Medicine & Anesthesiology  
Special Interests: palliative medicine

Frederick Perkins, M.D.  
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Marcia Procopio, M.D.  
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Special Interests: cardiothoracic anesthesia; obstetric anesthesia; vascular anesthesia

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Associate Professor of Medicine, Physiology & Anesthesiology  
Special Interests: critical care medicine; cardiothoracic anesthesia

Robert Rose, M.D.  
Associate Professor of Anesthesiology  
Special Interests: chronic pain and perioperative pain management; quality assurance

Jeffrey Shiffrin, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: regional anesthesia and post operative pain management; hypobaric hypoxemia and physiology of exercise and mountain illness; information technology and medicine

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Associate Professor of Medicine, Physiology, & Anesthesiology  
Special Interests: critical care medicine

Brian Sites, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: regional anesthesia

Brian Spence, M.D.  
Assistant Professor of Anesthesiology  
Special Interests: cardiac anesthesia; regional anesthesia; transesophageal Echocardiography

Stephen Surgenor, M.D., Ph.D.  
Associate Professor of Anesthesiology  
Special Interests: critical care medicine

Kenneth Travis, M.D.  
Emeritus Associate Professor of Anesthesiology

Christopher Wiley, M.D.  
Associate Professor of Anesthesiology  
Special Interests: advanced computer graphics to create medical simulations

Mark Yeager, M.D.  
William G. Garth Professor of Anesthesiology and Medicine  
Special Interests: critical care medicine; vascular anesthesia; anesthesia research
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