AZCATS – Today’s Surgeons
Perfect Techniques of Tomorrow

Today’s surgeons will learn and develop new minimally invasive techniques in a new research and training lab being developed at the University of Arizona Department of Surgery.

The Arizona Center for Advanced Technology in Surgery (AZCATS) will provide surgeons hands-on training in minimally invasive procedures using the latest simulation-based technology. The center also will serve as a place to develop new surgical devices and procedures that will further the advancement of surgery, leading to new interventional treatments and cures. The Department plans to open the center this summer.

Minimally invasive surgery (MIS) is a revolutionary approach in surgery. In MIS, the operation is performed with instruments and viewing equipment inserted into the body through small incisions, minimizing the surgical trauma and damage to the healthy tissue, thus resulting in shorter patient recovery time.

The use of computers, endoscopes, robotics, biomaterials and nanoscale tools provides surgeons access to previously inaccessible parts of the body in minimally invasive ways, says Allan J. Hamilton, MD, UA Department of Surgery professor and chairman.

“This is great news for the millions of people each year who undergo surgery. The economic and health care benefits derived from these developments are enormous,” he says.

Arizona is nationally renowned in surgery, optics, computer guidance, bioengineering and telemedicine, Dr. Hamilton says. AZCATS will create strategic partnerships among all of these areas and the surgical technology industry for collaborative research and development of surgical techniques of the future. Financial support will occur through federal grants and contributions from individuals, corporations and foundations.

The Department is committed to building its research, education and patient care missions, says Dr. Hamilton. “The center will give us the opportunity to become a leader in the greater integration of technology into surgical education and practice and allow us to take better care of our patients.”

An example of a computer-based virtual trainer simulating laparoscopic surgery. Simulators allow surgeons to hone their skills before stepping into the operating room.
Chairman’s Message

As the academic year of 2003-04 evolves, we are pleased with our transition to being the sole Level I Trauma Center for Tucson. This has been largely due to the cooperation of our faculty under the leadership of Trauma Director Dr. John Porter at the University of Arizona Department of Surgery, the surgeons in the community, our EMS/Paramedic services, the Mayor’s and the Governor’s Offices and Arizona legislators like Senator Toni Hellon. We hope that we can continue to grow and keep pace with the demands of the population of Southern Arizona. It is always a great honor to service them and serve them well.

We also are expanding our educational outreach and welcome our colleagues and friends from Tuba City and Sierra Vista. We are gradually increasing our links to other communities through the Arizona Telemedicine Program directed by Dr. Ronald Weinstein.

We are pursuing our strategic dream of developing an Arizona Center for Advanced Technology in Surgery, which not only embraces the mission of minimally invasive surgery, but also undertakes the development of new technologies required for the future of surgery, both with respect to implants as well as robotics. The department continues, as always, in this issue to demonstrate its growth and its ambition to expand its clinical and academic missions.

In closing, we want to thank all our friends and former residents who attended our first alumni reunion, held in conjunction with the Clinical Congress of the American College of Surgeons in Chicago. It was a great opportunity to reconnect with the surgeons who trained at the University of Arizona and to commemorate Dr. Charles Witte’s memory.

Respectfully yours,

ALLAN J. HAMILTON, MD
Professor and Chairman
Department of Surgery

AZCATS Programs

Surgical Education Program
- Education and training will encompass a full range of virtual reality simulation equipment that will provide extensive real-time exposure to the anatomy and physiology of the human body, as well as manifestations of diseases, disorders and dysfunctions.
- The center will take a leading role in evaluating and creating new uses of surgical simulation technology.
- Continuing education and training courses will be offered to physicians, nurses, biomedical engineers and other professionals locally, nationally and internationally, on site or through the use of telesurgery, teleconferencing and surgical telementoring.

Minimally Invasive Surgical Lab
- The translational research lab will have bench resources and will function as the testing site for instrumentation, robotics and nanotechnologies.
- The lab will facilitate the hands-on experiences that augment simulation, virtual reality and other training opportunities and environments.
- The lab will be available to industry partners working to develop the next generation of surgical instruments, biomaterials and devices.

Surgical Robotics Program
- This center will be the site for both clinical applications and educational exposures for robotic technologies, creating the prototype for the “Operating Room of the 21st Century.”
- Robotics will enable more complex minimally invasive procedures to be performed at UMC and will allow the training and mentoring of more surgeons in these procedures.
- New technologies that include robotic digital imaging and endoscopic positioning systems will be developed and tested in a realistic environment.

AZCATS – Building Bridges Between ASU Bioengineering and UA Surgery

Chairman of the Arizona State University Harrington Department of Bioengineering, Eric Guilbeau, PhD, and his faculty have been meeting with UA Department of Surgery researchers and clinicians to explore areas for research collaboration between the two departments.
For Beatrice Botello and an estimated 1 million other Americans, every time they leave their home, they have to think about the nearest restroom.

The 58-year-old has interstitial cystitis (IC), a chronic inflammatory condition of the bladder that causes frequent, urgent and painful urination. There is no known cause and at present there is no cure. Symptoms of IC include day and night urinary frequency of up to 60 times per 24-hour period.

“We people with this condition can be virtually incapacitated,” says Craig Comiter, MD, associate professor and chief, Section of Urology at the UA Department of Surgery. “People can’t go to movies or restaurants. They often are afraid to leave the house. Many sufferers become so anxious that they become isolated and depressed.”

Dr. Comiter recently completed a clinical study, the largest to date, on a relatively new procedure called sacral neuromodulation for patients suffering from interstitial cystitis. The study, published in the April 2003 issue of the Journal of Urology, showed that sacral neuromodulation is a safe and effective treatment for patients with severe IC who are not responding to other standard forms of therapy. Although the device was FDA approved five years ago, many urologists do not offer the procedure.

Just as the cardiac pacemaker helps maintain a steady heartbeat, the device works like a “bladder pacemaker,” helping men and women with debilitating bladder problems regain control of their urinary function. The device is surgically implanted under the skin in the lower abdomen near the sacral nerves at the base of the spine. These are the nerves that control the bladder, bowel and pelvic organs. The device sends tiny electrical impulses to the nerves, signaling the bladder and pelvic muscles to contract or relax as urine is stored or eliminated.

Botello hasn’t had any problems since her stimulator implant in February. “It was like a miracle to me,” she says.

“We have proven that sacral neuromodulation is a safe and effective treatment for patients with severe IC who are not responding to other standard forms of therapy,” says Dr. Comiter. “For these patients, it’s a major improvement in quality of life. It restores their freedom.”

AZCATS will create opportunities for surgeons like Dr. Craig Comiter to collaborate with medical device companies to create new technologies in surgery that would improve health care for patients in Southern Arizona and beyond. In addition to his studies on the sacral neuromodulator, Dr. Comiter was a pioneer in the development of the InVance Male Sling procedure, which treats stress incontinence frequently caused by prostate cancer surgery. (More than 3 million men in the U.S. suffer from this.) He was co-surgeon in the first male sling procedure performed, the first to use synthetic sling material, the first to perform a prospective trial with radical prostatectomy patients, and has performed more male sling procedures than any physician in the country.

Our goal is to develop a center of excellence with research programs to advance new surgical interventions that improve the health care of patients in Arizona and the Southwest. In order to establish AZCATS research and training programs, the department needs your financial support.

Immediate fundraising goals for AZCATS include:

- $50,000 for the Surgical Simulator Training Laboratory to acquire state-of-art computer-based virtual simulators for laparoscopic surgical training, and for SimMan, a computerized patient mannequin for scenario-based advanced training in life support courses and workshops.
- $25,000 for the Surgery Residency Program to pay transportation and registration expenses for third and fourth-year residents in the Department of Surgery to attend the October 2004 Clinical Congress of the American College of Surgeons.

If you would like to make a tax-deductible donation or have questions about how you can help the UA Dept. of Surgery’s programs, please contact Jo Marie Gellerman at:

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Trauma Surgery Goes Virtual

A person injured in a car accident in a small town is nearly twice as likely to die from his or her injuries as a person in a city. Trauma victims have the best chance of survival if the right resources and expertise intervene within the “golden hour,” the first hour after injury. But in rural Arizona, as in other states, resources and experts are scarce, forcing smaller emergency departments to transport patients to the nearest city with a trauma center. The UA Department of Surgery is using advances in technology to create programs that may increase the survival rate of trauma patients in rural areas.

According to Rifat Latifi, MD, associate professor of clinical surgery, Section of Trauma and Critical Care, about 60 percent of these transports could possibly be avoided if specialists were available for consultations, saving hundreds of thousands of dollars and many lives. Dr. Latifi, John Porter, MD, and the Level 1 trauma team at University Medical Center are working with the Arizona Telemedicine Program to create a live consultation link – including videoconferencing, telemetry, digital X-rays and ultrasound – between UMC and several rural emergency departments.

The Southern Arizona Tele-Trauma (SATT) program will provide remote emergency rooms with access to an entire team of surgeons and specialists at UMC that can help with diagnoses and care, says Dr. Latifi. “This program will allow us to virtually transport the trauma surgeon to that hospital,” he says.

Dr. Latifi, who also serves as associate director of Telesurgery and International Affairs for the Arizona Telemedicine Program, says he could even take the doctor through a procedure if necessary, providing state-of-the-art trauma surgery by “telepresence.” Another major benefit to SATT will be the opportunity to train rural doctors in the latest trauma care and emergency medicine techniques with neither physician having to leave their own hospitals.

Beginning in early 2004, the project’s first remote sites will be in the emergency rooms of hospitals along the southern border of Arizona, says Dr. Latifi. With a link to an experienced trauma team, no one should die because a trauma surgeon was not available in rural America.”

Innovative Surgery for Diabetic Neuropathy Offers Hope, Relieves Pain

Diabetic neuropathy, a progressive, painful nerve disorder, has been considered irreversible with no surgical treatment available in Arizona – until now. A. Lee Dellon, MD, clinical professor in the UA Department of Surgery, who pioneered a new approach to treat diabetic neuropathy, along with Christopher T. Maloney Jr., MD, UA clinical assistant professor, now are performing and teaching the procedure at University Medical Center.

About half of the 17 million Americans with diabetes eventually will develop nerve damage, says Dr. Maloney. Nerve damage occurs in people who have had diabetes because their blood sugar level is higher than normal. Over time, blood sugar can enter the nerve causing it to swell. As a nerve swells, it can become compressed and pinched, leading to pain or loss of feeling in the toes, feet, legs, hands and arms.

“In diabetic patients, the tiny nerves in the knee, top of the foot and at the ankle are swollen and become pinched or compressed,” says Dr. Maloney. The innovative approach surgically decompresses the nerves, restoring blood flow and relieving pain. “This procedure has been very successful at preventing ulceration and amputation in patients with diabetes,” he says.

The UA Department of Surgery held two Advanced Lower Extremity Peripheral Nerve Workshops in April and November. Organized and run by Dr. Dellon and Dr. Maloney, the hands-on workshops were attended by surgeons from all over the United States interested in learning this new technique.

AZCATS – Advancing Telesurgery and Robotics

Dr. Rifat Latifi brought telemedicine to his native Kosova. After war devastated the country, very little health care was available. By building a national telemedicine center and international virtual e-hospital, which opened December 2002, Dr. Latifi has put together an international network of doctors and health care professionals from around the world to provide training and mentoring of medical students, nurses and technicians in Kosova.

Taking telemedicine one step further is telesurgery, which many surgeons believe is the way surgical care will be performed in the future. AZCATS’ Surgical Robotics Program will allow surgeons like Dr. Latifi to perform and direct operations remotely from anywhere in the world.

AZCATS – Promoting Surgical Innovations

Today’s surgeons are constantly challenged to keep pace with breakthrough technology. AZCATS will offer frequent, accessible, “hands-on” courses for surgeons, medical students and nurses as new procedures and instrumentation continue to evolve at an increasingly rapid rate. The center will extend far beyond Arizona Health Sciences Center walls, furthering the University of Arizona’s outreach mission. The mission of AZCATS is to develop, improve and assimilate the most advanced techniques in surgery to improve the health care for the people of Arizona and worldwide.
Innovative Education

Practice Makes Perfect: Trauma Simulator Provides New Training Tool

A patient is rushed into the emergency room suffering from multiple trauma-related injuries. Scalpel in hand, doctors must work quickly, making split-second decisions. Before being faced with this scenario in real life, surgeons-in-training at the UA Department of Surgery are practicing their skills on a realistic human patient surgical simulator called “TraumaMan®.”

The UA Department of Surgery is using TraumaMan® in the Advanced Trauma Life Support (ATLS) course. With all the appearance and symptoms of a trauma victim and with “tissue” that cuts and “bleeds” like real human tissue, the simulator enables residents and emergency physicians to challenge and test their clinical and decision-making skills during realistic trauma patient care scenarios, says Rifat Latifi, MD, associate professor of clinical surgery, UA Department of Surgery Section of Trauma and Critical Care, and one of the ATLS directors.

Made by Simulab Corporation, the surgical trainer includes simulated tissue and abdominal organs within an abdominal cavity. The organs and cavity can be filled with simulated body fluids, such as simulated blood so that the patient actually “bleeds” when cut. To be more lifelike, the simulator also includes airflow to mimic real-life responses.

Just as technology is transforming the practice of medicine, it also is changing the way tomorrow’s doctors are being trained, says Dr. Latifi. “For surgeons in training, practice makes perfect. That practice increasingly is involving new simulation technology.”

AZCATS – Performing Simulated Surgery

The technology is just beginning to reach the level where simulators can be used in medicine the way that the aviation industry has been using it for the past 50 years – to avoid errors. These virtual reality trainers can be adjusted to the user, to pinpoint areas of weakness, and they can be used at any time, without the need for supervision. What’s more, they prepare the student psychologically for surgical tasks, because complications can be simulated in a safe manner. They also can give objective scores of a student’s ability.

A goal of AZCATS is to have surgical training be entirely virtual, replacing the cadavers and animals with computer-based simulators.

Department Receives Approval to Train Neurosurgeons

The UA Department of Surgery has established a newly accredited residency training program in neurosurgery.

A residency review committee from the Accreditation Council for Graduate Medical Education (ACGME) approved a Residency Program in Neurological Surgery, effective June 27, 2003. The six-year program participates in the National Residency Matching Program and has accepted its first resident to begin July 1, 2004. The program will continue to accept one resident per year and has already received more than 100 applications for 2005.

The Section of Neurosurgery had been taking steps to establish the program for more than 10 years, says Martin Weinand, MD, associate chief of the Section of Neurosurgery and the residency program director. To meet the criteria for approval, the proposed program must demonstrate capable faculty, a broad spectrum of clinical cases, and a significant level of institutional support. The arduous application process is followed by an on-site visit by ACGME representatives.

“This has been a major effort to ensure that the University of Arizona meets all the rigorous criteria to qualify for training neurosurgeons in the United States. It is a great honor and a huge responsibility that we welcome,” says Allan J. Hamilton, MD, chairman of the UA Department of Surgery, and chief of the Section of Neurosurgery.

Currently four other ACGME-accredited residency programs are in the UA Department of Surgery: General Surgery, Urology, Vascular Surgery and Cardiothoracic Surgery. Including the new neurosurgery program, the UA College of Medicine sponsors 22 ACGME-accredited residency programs.

“This residency program will enhance all of the other residency training programs in the Department of Surgery. Our focus will be on producing top-notch neurosurgery physicians,” Dr. Weinand says.

The ACGME awards accreditation for the nation’s residency programs, in which doctors spend years of intense preparation in a specialty.
Urology, Neurosurgery and Trauma Surgeons Join Department

The UA Department of Surgery Section of Urology has appointed Jonathan R. Walker, MD, as assistant professor of clinical surgery. Dr. Walker completed his fellowship in urologic oncology at the National Cancer Institute in the National Institutes of Health in Bethesda, Md. The only fellowship-trained urologic oncologist in Arizona, Dr. Walker specializes in the treatment of bladder, kidney, prostate, testis and adrenal cancer.

Dr. Walker earned his medical degree from Georgetown University, where he also completed his residency training. He is a member of the Society of Urologic Oncology, American Urological Association, and the Washington Urologic Society. Awards include Outstanding Resident Teacher, the Pfizer Scholars in Urology Award and the Washington Urological Society First Place Research Paper Presentation.

Dr. Walker has coauthored a chapter on testis cancer and coauthored articles in the research journals Human Gene Therapy and Genes, Chromosomes, and Cancer. His research interests include the genetic analysis of prostate cancer and renal cell carcinoma.

“We are happy to have Dr. Walker join our faculty,” says Craig Comiter, MD, chief, Section of Urology. “As the only fellowship-trained urologic oncologist in the state, Dr. Walker will provide patients state-of-the-art cancer care here at the University of Arizona.”

Rein Anton, MD, PhD, who joined the Section of Neurosurgery as assistant professor of clinical surgery, received his medical degree from Tartu University, Tartu, Estonia. Also at Tartu University, he completed his initial residency training in neurosurgery and earned his PhD in biochemistry and molecular biology. He worked as a researcher in molecular biology at UCLA and completed a neurosurgery residency at Loma Linda University, Loma Linda, Calif.

Dr. Anton’s clinical expertise includes complex spine neurosurgery, including cervical/thoracic/lumbar disorders, cervical and lumbar stenosis, cervical/lumbar disc herniations and spinal cord tumors. Dr. Anton also offers general neurosurgical intervention, consisting of brain tumors (not complex skull base), peripheral nerve problems, carpal tunnel and ulnar nerve entrapment.

A member of the Society for Neuroscience, American Society for Neural Transplantation and Repair, Ludwig Puusep Society for Neurologists and Neurosurgeons (Estonia) and the American Association of Neurological Surgeons, Dr. Anton is the coauthor of more than 40 articles. His research interests include genetically engineering cells for transplantation for Parkinson’s and Huntington’s diseases and neuro-oncology, and the functioning of oncogenes in brain tumors.

Karsten Fryburg, MD, also joined the Section of Neurosurgery as assistant professor of clinical surgery. He graduated from Hannover Medical School in Germany, where he also completed an internship. He completed his residency training in Ear, Nose and Throat (ENT) at the University of Dusseldorf, a neurosurgery fellowship at the University of Arizona, and a neurosurgery residency at the Medical College of Georgia.

Dr. Fryburg has published several articles in national journals and is a member of the Congress of Neurological Surgeons and the American Association of Neurological Surgeons. His clinical interests include pediatrics and complex spine surgery.

Stephen D. Neeleman, MD, has joined the Section of Trauma and Critical Care as clinical assistant professor. His clinical interests include general surgery, minimally invasive surgery, endoscopy and trauma and critical care. His research interests are health care reform and financing, and health systems management.

Dr. Neeleman received his medical degree from the University of Utah and recently completed his residency in general surgery at the University of Arizona.

He has coauthored four articles and is a member of the Society of American Gastrointestinal Endoscopic Surgeons (SAGES).
ACS Reception

More than 50 friends, former residents and past and present faculty attended the UA Department of Surgery’s first alumni reception Oct. 20 during the Clinical Congress of the American College of Surgeons in Chicago. Cosponsored by Kindred Hospital Tucson, the reception was held at the Hyatt Regency Chicago in honor of the late Charles Witte, MD. Surgery Residency Alumnus Robert Berger, MD, served as local host. More photos can be seen at the Website: www.ahsc.arizona.edu/opa/surgery/acs/

Two Department of Surgery Faculty Named to Endowed Chairs

Paul F. McDonagh, PhD, professor of surgery and physiology, Section of Cardiovascular and Thoracic Surgery, has been appointed The Allan C. Hudson and Helen Lovaas Chair of Vascular Biology and Coagulation by the University of Arizona Sarver Heart Center. The endowment will support Dr. McDonagh’s cardiovascular research. Dr. McDonagh’s research includes the study of inflammation and coagulation as they apply to artificial hearts, mechanical circulatory support devices and heart-lung machines, and the study of mechanisms of the inflammatory response to ischemic injury to the heart and brain, caused by restricted blood flow.

A $2 million endowment has been established by the Sarver Heart Center to honor the outstanding career of Jack Copeland, MD, chief, Section of Cardiovascular and Thoracic Surgery. Friends, colleagues and grateful patients contributed to The Jack G. Copeland, MD, Endowed Chair of Cardiothoracic Surgery, which recognizes his 25 years as a distinguished faculty member, accomplished surgeon and renowned scientist. Interest income from the fund will assist the cardiothoracic surgical team in efforts to discover new options for patients with heart disease who are not helped by medication.

In Memorium

Leonard F. Peltier, MD, PhD, passed away May 4. He founded the UA College of Medicine Section (now Department) of Orthopaedic Surgery and spearheaded the creation of Tucson’s Joint Trauma Program. He joined the UA in 1971 and twice served as acting head of the UA Department of Surgery (in 1976 and from 1986-90). He was 83.

George William Nash, MD, died Aug. 20 at age 73. He was the third neurosurgeon to practice in Tucson and served on the staff at all the local hospitals. He also was an internationally recognized addiction medicine specialist. Dr. Nash was the first chief of neurosurgery at the UA College of Medicine. Later, he had a clinical faculty appointment at the College’s Department of Family and Community Medicine.
Stephen Lanzarotti, MD, Craig S. Cook, MD, John M. Porter, MD, Daniel Judkins, RN, MS, MPH, Mark D. Williams, MD, published the article “The Cost of Trauma” in The American Surgeon, September 2003.

Allan Hamilton, MD, professor and chair, Department of Surgery, was the senior author of “Efficacy of antimicrobial-impregnated external ventricular drain catheters; a prospective, randomized controlled trial” in the April 2003 issue of the Journal of Neurosurgery.

Craig Comiter, MD, associate professor and chair, Section of Urology, presented “Managing Urinary Incontinence” at the Arizona Geriatric Education Center Grand Rounds.

Joseph Mills, MD, professor and chief, Section of Vascular Surgery, moderated a session at the American College of Surgeons meeting in Chicago titled “Optimizing Salvage of Ischemic Limbs.”

Hugo Villar, MD, associate department chair and chief, Section of Surgical Oncology, has been appointed by the Arizona Board of Regents as a member of the International Relations Executive Committee. He also hosted an international fellow and new American College of Surgeons member at the ACS meeting in Chicago.

Rifat Latifi, MD, associate professor of clinical surgery, Section of Trauma and Critical Care, spoke on “Telemedicine and Telepresence in Trauma Care” at the Virginia Commonwealth University Fourth Annual Symposium on Trauma in the 21st Century: Challenges for the Next Decade. He also made three presentations at the International Congress of Surgeons of the State of Sonora: “Telemedicine and Telepresence in Trauma Care,” “Use of Endoscopy in Thoraco-abdominal Trauma,” and “Nutrition Support in Trauma and Critically Ill Patients: Current Concepts.” Dr. Latifi lectured at the Telemedicine Center of Kosovo and the University Clinical Center of Kosovo, Prishtina, on “New Trends of the Management of Patients with Multiple Trauma.” Dr. Latifi published a book of poems called Vdekja ne Pasqyre (Death in the Mirror) by Rozafa Publishing, in Prishtina, Kosovo.

Michael Demeure, MD, professor and chief, Division of General Surgery, spoke on the “Clinical Significance of Micrometastases,” for Kaiser Permanente’s 41st Annual Surgery Symposium in Palm Springs. He also served on an expert panel discussing the surgical management of thyroid cancer at this year’s joint meeting of the American Association of Endocrine Surgeons and the American Association of Clinical Endocrinologists held in San Diego.

Sanjay Ramakumar, MD, assistant professor, Section of Urology, received a UPERCC grant (an internal grant funded by the College, UMC and UPI) for his research on “Novel Application of Tissue Sealant Biomaterials with Therapeutic Renoprotective Genes to Enhance the Capabilities of Minimally Invasive Surgery.” He will receive $100,000 per year for two years.

Judith Ulreich, PhD, research associate professor, Section of Transplantation, co-presented “Dimethyl Sulfoxide and Ethanol, Organic Solvents Most Commonly Used as Vehicles in Vitro, Affect Precision-Cut Liver Slice Viability” at the Society of Toxicology annual meeting in Salt Lake City, Utah. She also co-presented “In Vivo Evaluation of a Resorbable Type I Collagen Ligament Template in a Canine Model” at the Society for Biomaterials 2003 meeting in Reno.

Gabriel Gonzales-Portillo, MD, assistant professor, Section of Neurosurgery, was invited to participate as a speaker in the symposium “Education in Neurosurgery” as well as to give a lecture in “Intracranial Aneurysms” in the Peruvian Congress of Neurological Surgeons held in Lima, Peru.

Mark Your Calendar!

Surgery Grand Rounds

VISITING PROFESSOR SERIES

Presents

Jeffrey Trent, PhD
Wednesday, Feb. 4, 2004
President and scientific director, Translational Genomics Research Institute (TGen) in Phoenix. Dr. Trent’s presentation is supported by an unrestricted educational grant from Wyeth-Ayerst.

Sam Wells, MD
Wednesday, March 3, 2004
Professor of surgery, Duke University, group chair and principal investigator, American College of Surgeons Oncology Group. Dr. Wells’ presentation is supported by an unrestricted educational grant from Baxter.

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